A STRATEGIC APPROACH TO THE IMPLEMENTATION OF QUALITY DISTANCE LEARNING IN SAUDI ARABIA: AN EMBEDDED CASE STUDY

Badr ALSOLIMAN

Ph.D. Thesis **2015**

A STRATEGIC APPROACH TO THE IMPLEMENTATION OF QUALITY DISTANCE LEARNING IN SAUDI ARABIA: AN EMBEDDED CASE STUDY

Badr ALSOLIMAN

School of the Built Environment
College of Science and Technology
University of Salford, Salford, UK

Submitted in Partial Fulfilment of the Requirements of the Degree of Doctor of Philosophy, October 2015

ABSTRACT

New technological advancements in media and communication have made information increasingly accessible and have offered an environment for distance learning to expand as an alternative mode for delivering education and instruction. The advantages of this mode of delivery have encouraged educational institutions around the world to expand their educational approach and offer the opportunity for more students to join their programmes at a distance. In light of the variety of methods and technologies that are used to deliver such programmes, challenges concerning the quality of these programmes have started to emerge. In response, organisations and agencies have begun to develop quality standards for distance learning in order to assess the implementation of these programmes. Calls for the use of such standards in assuring the quality of distance learning programmes are on the rise. By 2002, many Saudi Arabian universities had begun to offer a range of distance learning programmes to meet the demand from a growing number of students. Although the Saudi government invested huge financial and human resources into the implementation of distance learning, the quality of such learning has been widely disputed. Through a case study approach involving a leading university in Saudi Arabia that offers a variety of distance learning programmes, this study aimed to develop a strategic approach for implementing quality distance learning. The study utilised a mixed methods design for assessment purposes from three different perspectives (administrators', faculty members' and students'). The study found that the quality of distance learning in the country faces many barriers at six levels/dimensions. These barriers, in most respects, ensued from the ambiguity of the Ministry of Higher Education regulations that organise distance learning in the country, which has incapacitated the Deanship of Distance Learning role as the centre of distance learning operations at distance learning Saudi universities. It concluded with a strategic approach that is mainly focused on the elimination of the aforementioned barriers. The study findings provide Saudi universities authorities with a comprehensive tool for evaluating the quality of their distance learning programmes and solutions to implement quality distance learning in the country to avoid the shortcomings of the perceived poor distance learning quality.

ACKNOWLEDGMENT

To my supervisor Prof. Vian Ahmed, who showed me a great example of dedication in giving without limits, working with passion and relentless support. I will never forget her encouragement and cooperation, which on many occasions rendered me speechless. A description of her taking my hand and leading me through all the steps of my PhD journey falls short of adequately describing her supervision.

To my wife and kids, who observed and lived the difficult times of my journey with outstanding patience and appreciation. My consolation for the times I couldn't spend with them is that their patience and my efforts were not in vain.

To my mother and father, who gave me the strength through their prayers and supplications to God for a safe and prompt return. The sound of their voices and emotions whenever I hear them from overseas is one of my most unforgettable emotionally charged memories.

PREFACE

Some of the materials in this thesis has been published and presented to scientific meetings.

Papers:

- Alsoliman, B., (2015). Indicators of effective implementation of distance learning: The six dimensions. In: London, *8th Saudi Student Conference in UK*. London, UK, 31 Jan-1Feb. London: Imperial College Press.

- Ahmed, V., Alsoliman, B., (2015). Towards a standards reform in Saudi distance learning: Norms for distance learning in Saudi Arabia. In Manchester, *12th International Post-Graduate Research Conference 2015*. MediaCityUK, June 10th – 12th.

Poster:

- Ahmed, V., Alsoliman, B., (2013). The "Change laboratory" approach: reshaping distance learning practices in king Abdulaziz University. In Manchester, *12th International Post-Graduate Research Conference 2013*. MediaCityUK, April 8th – 10th.

ABBREVIATIONS LIST

A	
ACTDEC	Accreditation Council for TESOL Distance Education Courses
AHEA	Adult Higher Education Alliance
AACSB	Association to Advance Collegiate Schools of Business
B	
BAC	British Accreditation Council
BILD	British Institute for Learning and Development
C	
CENTRA	CENTRA is an application specially designed by the case studied university to facilitate synchronous communications related to distance learning.
CHEA	Council for Higher Education Accreditation
D	
DDL	Deanship of Distance Learning
DETC	Distance Education and Training Council
DLAC	Distance Learning Accreditation Council
E	
EAC	European Accreditation Council
ECBE	European Council for Business Education
EMES	Electronic Management Education System used at the case study university to deliver distance learning classes and materials (asynchronous)
I	
IADL	International Association for Distance Learning,
IAU	International Association of Universities
IGNOU	Indira Gandhi National Open University
IMSIU	Imam Muhammad ibn Saud Islamic University
K	
KAU	King Abdul-aziz University
KSU	King Saud University
L	
LAN	National Accreditation Board
M	
MOCI	Ministry of Commercial and Industry
MOE	Ministry of Education
MOHE	Ministry of Higher Education
N	
NCAAA	National Commission for Academic Accreditation & Assessment
NCEDL	National Centre for E-learning and Distance Learning
O	
ODLQC	Open and Distance Learning Quality Council
ODUS	Application used by the case studied university for distance learning registration purposes and processes.
OU	Open University
Q	
QAA	Quality Assurance Agency for Higher Education
QS	Quacquarelli Symonds
S	
SEU	Saudi Electronic University
T	
TL	Traditional Learning (face-to-face conventional learning)
U	
UMUC	University of Maryland – University College
UNISA	University of South Africa
USDLA	United States Distance Learning Association
UT	Universitas Terbuka

TABLE OF CONTENTS

CHAPTER I

INTRODUCTION

1.1 BACKGROUND

The arrival of new technologies; the rising numbers of students; and the diversity of university programmes have collectively created a huge pressure upon universities to develop new approaches to meet these challenges (Moore, 2013).

In response to these challenges, more conventional universities have begun to use programmes that reach students at a distance through the use of technology developed from the available infrastructure. These Distance Learning (DL) programmes were defined by Moore and Kearsley (2012, p.2) as ”teaching and planned learning in which teaching normally occurs in a different place from learning, requiring communication through technologies as well as special institutional organization”.

The concept of DL emerged, particularly, in Europe at The University of London and, in the US, at the University of Chicago. Such approaches were conducive to a rapid growth in design, methods of instruction, and the delivery of DL courses (Gooley and Lockwood, 2012).In light of the variety of methods and technologies that were used to deliver DL programmes, many studies have highlighted the need for defined criteria for assessing the quality of the implemented DL programmes in DL institutions (Chalmers and Johnston, 2012; DeAntonio and Johnson, 2014; Valai, Crawford and Moore, 2015).

In an effort towards improving the assessment of the quality of the implementation of DL programmes, many accreditation bodies around the world have developed various criteria for evaluating the quality of the DL programmes. Some of these accreditation bodies have issued criteria for a particular region/country and others have issued global criteria that are used to provide accreditation internationally to DL universities around the world.

The International Association of Distance Learning (IADL, 2013) has identified 16 international quality accreditation bodies that are certified for providing accreditation to DL institutions/ universities around the world. The emergence of global criteria for evaluating the quality of DL provides a great opportunity for DL institutions/universities to utilise these criteria in assessing the quality of their offered DL programmes (Chalmers and Johnston, 2012).

Notwithstanding the benefits of using criteria of quality DL issued by accreditation bodies in detecting any flaws in the implemented DL system, they also provide a tool that enables DL institutions to draw an outline for future development (Meyer, 2014).

According to the National Centre for E-learning and Distance Learning (NCEDL, 2013), Saudi Arabia began to utilise DL in higher education in 2002. Many Saudi Arabian universities have begun to offer DL programmes in an attempt to allow the growing number of Saudi students to have access to higher education. These universities have introduced DL programmes into a variety of courses by utilising the huge developments in the Saudi telecommunications system. By using the services of more than three leading telecommunications providers, Saudi Arabia has developed a promising DL experience in the Arab world. Universities in Saudi Arabia are constantly competing to provide a variety of DL programmes that suit the needs of Saudi students by offering new programmes with new approaches, applications and rules in order to attract a wide range of students. The quality of these programmes still needs to be assessed and investigated, however, so that they can compete with their counterparts around the world.

In an attempt to pave the way for the introduction of a quality DL educational delivery system, the Saudi government, represented by the Ministry of Higher Education (MOHE), established the NCEDL in 2006, which was a step towards a legislated and regulated DL system in the country. Since then, Saudi universities have offered DL degrees that are certificated and have introduced regulations to support DL in the country (NCEDL, 2013).

In 2009, Saudi universities stopped enrolling students permanently in the so-called "Intesab" system - where students are receiving only the content of traditional courses and have to attend for a final examination - to providing learning materials using the technological advances, announcing that DL programmes would be the only alternative to TL (MOHE, 2013). The NCEDL (2011) reported that the MOHE has left the door wide open for Saudi universities to develop a strategic plan for their DL programmes that takes into account international quality indicators. Furthermore, in a new approach towards quality assessment, the MOHE has established the National Commission for Academic Accreditation & Assessment (NCAAA) that is dedicated to providing assessment and accreditation to post-secondary educational institutions in Saudi Arabia.

According to the NCAAA (2011), one clearly stated aim of the establishment of the NCAAA is to create an educational environment that complies with international quality and takes into account local needs. Distance learning in Saudi Arabia is offered mainly at post-secondary educational institutions; therefore, the MOHE, represented by the NCAAA, is encouraging research in this field and has put a lot of emphasis on the development of successful approaches for implementing quality DL.

In light of the aforementioned facts, it can be suggested that, given the availability of international criteria for quality DL, successful approaches to the implementation of quality DL in Saudi Arabia can utilise those criteria in assessing the quality of their offered DL programmes. According to Meyer (2014), the advantages of the global criteria of quality DL transcend merely assessing the current quality of the implemented DL to helping to draw an outline for future development. Accordingly, this study tries to develop a strategic approach for implementing quality DL in Saudi Arabia that utilises the global/international DL criteria of quality.

1.2 RESEARCH PROBLEM

Although the Saudi government has invested huge financial and human resources in the implementation of quality DL in the country (MOHE, 2013), DL is facing wide rejection from its main recipients. The reasons for this were ascribed by many studies to its poor quality (Al-Busaidi and Al-Shihi, 2010; Al-Draiby et al., 2010; Algahtani, 2011; AlMegren and Yassin, 2013; Al-Shehri, 2010). It was no surprise that the results of studies such as that of Mirza (2006), Alaugab (2007), and Al-Balawi (2007) indicated that, whilst DL can offer more opportunities for Saudi females to pursue their education due to the Saudi cultural values, females in Saudi Arabia tend to have negative attitudes towards DL.

Willging and Johnson (2004) suggested that the student dropout rate is strongly correlated to the poor quality of the DL programmes, which was evident in local studies that reported a high dropout rate from DL in the Saudi universities (Abdulaziz, 2008; Alkhattabi, 2014; Ibrahim, Rwegasira and Taher, 2007).

Although, universities in Saudi Arabia have adopted many strategies to promote the quality of the provided DL, all were characterised by self-reporting and internal quality assurance centres that issue their own quality criteria (Alzalabani and Nair, 2014). In recognition of the need to promote the quality of DL in the country, the Saudi government has launched the NCEDL to encourage research into improving the implementation of DL to meet local demands, and to follow the lead of its other major international counterparts (NCEDL, 2011).

Recommendations that the NCEDL have pointed out are:

- The need for a comprehensive plan that is more harmonious to accommodate the efforts and potential of DL institutions in the country and to help promote the coordinated use of e-learning among its recipients.
- The need for effective utilisation of the resources, latest information and communication technologies to ensure that DL institutions in the country follow effective practices to guarantee the implementation of quality DL (NCEDL, 2011).

Driven by the aforementioned facts, this study seeks to bridge the gap between the huge resources that were invested in DL by the Saudi government (represented by MOHE) and the poor quality of the implemented DL. The NCEDL (2011) reported a lack of a comprehensive plan to promote the implementation of quality DL and this study aims to develop a strategic approach for the implementation of quality DL. In order to achieve this, a case study approach is being used involving King Abdul-aziz University which is a leading DL university in the country.

This study takes into account the global DL quality criteria and the perspectives of the DL stakeholders represented by students, faculty members and administrators as indicated in many studies (Collins, 2013; Muniandy and Veloo, 2011; Robertson, 2008). This enables the study to gain a collective view and clear insights into the current implemented quality of the DL in Saudi Arabia and identifies barriers that hinder the effective utilisation of the resources.

Ultimately, the findings should help to formulate a strategic approach that will provide the Saudi higher education administration with guidance in order for them to improve the quality of DL programmes in the country.

1.3 THE STUDY COMMUNITY

This study took place at King Abdul-aziz University (KAU). According to KAU (2013), which is among the 11 DL universities in the country, KAU is the headquarters of the Saudi Society for Distance Learning (SSDL) and is deemed to be at the forefront of the DL institutions in the country, taking the lead in promoting research that addresses the issues of quality assurance in the DL programmes. KAU is the first university in Saudi Arabia to use DL in many of its courses. In 2012, the first DL students group graduated from KAU to mark the first DL students granted a degree through a complete DL delivery system in Saudi Arabia.

These above mentioned factors made KAU a rational case study choice for the study. Moreover, given that the researcher is working at the university as a lecturer, it is easier for him to obtain permission to have access to DL related documents, observable events and participants within the organisation as well as immerse himself in the study context. Taking into account time limitations and the lack of funds for this research, investigating issues related to the implementation of quality DL in KAU provide an applicable and feasible PhD project for the researcher.

As reported by KAU (2013), the university is a public traditional university on a single site using Information and Communication Technology (I.C.T.)/virtual components to deliver some aspects of its education and training services. It has four DL colleges that offer DL degrees in 10 undergraduate and post graduate subjects. The colleges are: Rabigh Business School (offers four DL programmes), College of Economics and Administration (offers three DL programmes), College of Art and Humanities (offers two DL programmes) and the Programme of Educational Graduate studies (offers only one DL programme).

All courses are delivered entirely online through the Electronic Management Education System (EMES) that is supported by two other DL applications: "CENTRA" that is specially designed by the university to facilitate synchronous communications related to DL and "ODUS" for registration purposes and processes. King Abdul-Aziz University delivers 240 DL courses in which 1200 students are enrolled; 47% are males and 53% are females.

KAU has 112 teaching staff (faculty members) and 35 administrative staff. Distance learning programmes are centrally controlled by the Deanship of Distance Learning (DDL) which is organised hierarchically, headed by the dean, followed by four vice deans who are assisted by the two heads of educational affairs.

1.4 RESEARCH AIM AND OBJECTIVES

The aim of this study is to develop a strategic approach towards the implementation of quality DL in Saudi Arabia. This aim is to be achieved via the following objectives:

1. To develop an understanding of the definition of DL concepts, and historical development to date.
2. To build a conceptual framework that underpins the criteria for quality implementation of DL programmes.

3. To explore the current status of approaches to implementing quality DL programmes in general and in Saudi Arabia in particular.
4. To define valid methodology to evaluate the quality of the implemented DL in the Saudi context using KAU as a case study.
5. To evaluate the quality of the DL programmes in Saudi Arabia, using KAU as a case study, guided by criteria (defined in the second objective) and identify barriers to the implementation of quality DL.
6. To devise a strategic approach for the implementation of quality DL programmes in Saudi Arabia and draw recommendations.

By achieving the aforementioned objectives the study will be able to answer the following research questions:

- What are the factors that contribute to the implementation of quality DL programmes?

- What are the barriers that face the implementation of DL in Saudi Arabia?

- What are the factors that contribute to the implementation of quality DL programmes in Saudi Arabia?

1.5 THE RESEARCH APPROACH

I. A literature review was conducted to:

- Develop an understanding of the definition, history and development of DL to date, in order to capture a clearer view of the current DL status.
- Develop an understanding of the DL pedagogies that address applications and practices of DL, in order to define the key elements of DL.
- Build an understanding of the models that attempted to describe the optimum implementation of DL and its related components, in order to identify key aspects of quality DL.
- Explore the various global attempts at issuing criteria to assess DL quality, in order to identify key indicators of quality DL.
- Explore DL global and local experiences of implementing quality DL criteria to gain insights into the strengths, weaknesses and barriers to the implementation of quality DL and its influence on DL recipients.

II. Qualitative methods were employed to:

- Assess the implementation of the criteria of quality DL from the perspective of administrators and faculty members.
- Assess the implementation of the criteria of quality DL in the light of documented and observed evidence.
- Identify barriers to the implementation of quality DL criteria.

III. Quantitative methods were employed to:

- Assess the implementation of criteria of quality DL from the perspective of the students.
- Identify students' profile factors that influence their perception of the quality of the provided DL.
- Identify barriers to the implementation of quality DL criteria.
- Validate the study proposed solutions/recommendations.

1.6 RESEARCH ORIGINALITY

Although there are number of studies in Saudi Arabia which have explored the implementation of quality DL from either the students' perspective (Algahtani, 2011; Alhazzani, 2014; AlMegren and Yassin, 2013), faculty members' perspective (Al-Balawi 2007; Albalawi and Badawi, 2008; Al-Busaidi and Al-Shihi, 2010) or administrators' perspective (Al-Jarf 2007; Al-Shehri, 2010; Sahab, 2005), this study contributes to the body of research in Saudi Arabia as it investigates the implementation of quality DL in Saudi Arabia from the perspective of all the three key players in the DL education system (students, faculty members and administrators). In doing so, its methodology offers an investigative approach that takes into account the perspectives of DL main stakeholders.

Moreover, the study develops a comprehensive tool that covers all aspects of DL quality to assess the quality of the implemented DL programmes in the country. This is a step forward in evaluating DL quality in the country.

Additionally, based on a synthesis of the criteria developed by the 16 international accreditation bodies, the study builds a comprehensive framework to evaluate the implemented quality of DL. This provides educators locally and globally with a valid tool for evaluating the quality of their DL programmes.

Furthermore, the study proposes a strategic approach for the implementation of quality DL in Saudi Arabia that takes into account the perspectives of all DL stakeholders. This has the potential to influence DL universities in the country to undergo changes for better utilisation of the available resources, and to provide guidance for future comprehensive plans.

Finally, the study offers a collective view from different perspectives that provides clear insights into the Saudi DL experience. This, in turn, offers a great chance for policy makers in the country to formulate their decisions in the light of the participants' reflections, as KAU is deemed to be the country's leading university regarding DL.

1.7 STRUCTURE OF THE THESIS

This thesis consists of three parts divided into seven chapters. A guiding diagram to the thesis structure is demonstrated in Figure1.1 on the next page and a summary of each section's contents is presented below:

Chapter I: INTRODUCTION

This section explains the background to the research, the research problem, aim, objectives, question, approach and originality.

Chapter II: TOWARDS A QUALITY DISTANCE LEARNING

This chapter aims to provide the background for the DL education system and create a clear picture of the core elements, aspects and criteria of DL quality. It starts by providing a clear definition of DL, then proceeds to provide an historical background to the DL developments. Then it addresses the application of DL from the lens of DL pedagogies in order to identify DL quality core elements. It continues to review optimum use of DL components from the perspectives of different system models of DL to recognise aspects of quality DL. Finally, in this chapter, the DL quality criteria of 16 international accreditation bodies have been reviewed to identify key indicators of DL quality. It concludes with a conceptual framework that has helped the study in its approach of evaluating the quality of the current implementation of DL in Saudi Arabia.

Chapter III: APPROACHES TO THE IMPLEMENTATION OF QUALITY DISTANCE LEARNING

This chapter aims to explore DL international and local experiences of implementing quality DL to gain insights into the strengths, weaknesses and barriers to the implementation of quality DL and its influence on DL recipients. It begins by reviewing the leading global and local DL experiences in light of the study conceptual framework.

In doing so, the strengths and weaknesses in the implementation of quality DL are pinpointed. Finally it concludes with the barriers that face the implementation of quality DL and its influence on DL recipients both locally and internationally.

Chapter IV: RESEARCH METHODOLOGY

This chapter presents the research methodology and identifies the research philosophical position, approach, strategy, choices, time horizon, techniques and procedures.

Chapter V: QUALITATIVE ANALYSIS AND RESULTS

This chapter addresses the results of the qualitative data collection techniques used in this study. It is comprised of three sections; each section contains a brief summary of the data collection techniques used and their analysis procedures followed by the results and the main findings.

Chapter VI: QUANTITATIVE ANALYSIS AND RESULTS

This chapter addresses findings from the quantitative techniques used in the study. It is comprised of two sections; each section contains a brief summary of the used quantitative data collection techniques and their analysis procedures followed by the results and the main findings.

Chapter VII: DISCUSSION AND CONCLUSION.

This chapter addresses the study's findings and conclusions in relation to the research objectives. The study findings are compared and contrasted with findings from the related literature in order to position the study amongst other studies in the field. Finally, the study limitations, main findings, conclusion, contribution to the knowledge and recommendations are addressed respectively.

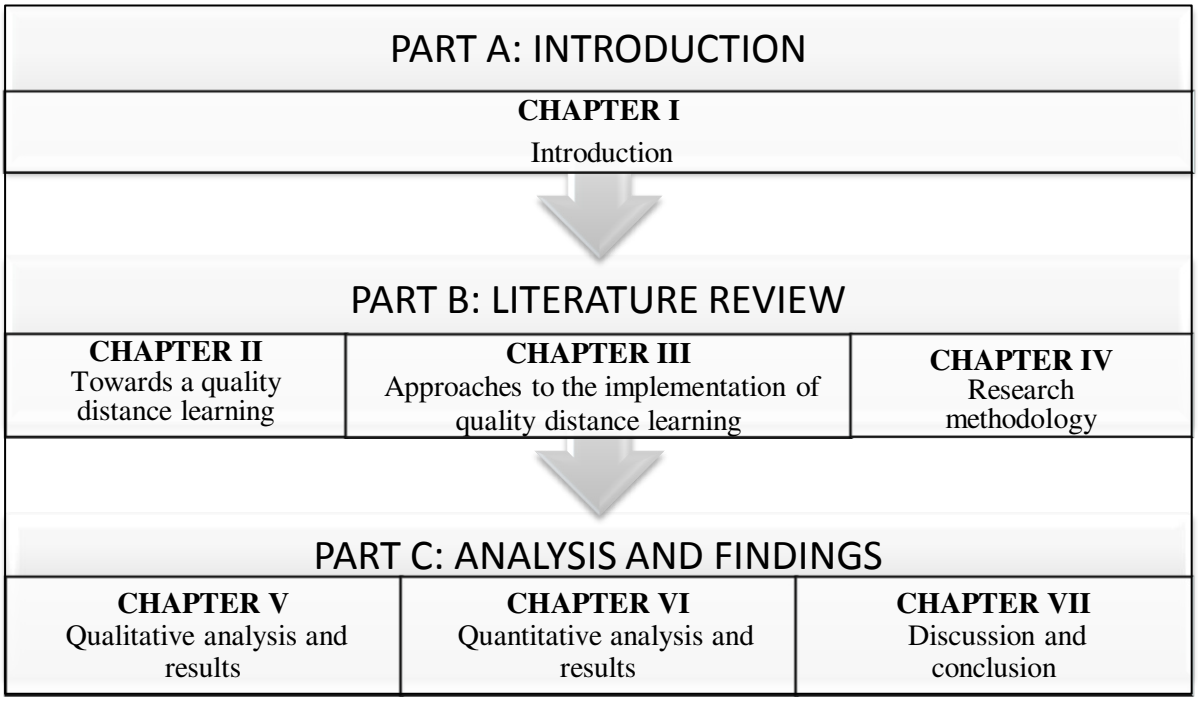

Figure 1.1: Thesis structure

CHAPTER II

TOWARDS A QUALITY DISTANCE LEARNING

2.1 INTRODUCTION

The introduction of DL as a new system of delivering education at a distance has changed many aspects of the conventional definition of education in terms of whether students and teachers need to be in the same place. The abundance of DL definitions and the emergence of alternative methods of instructional delivery have made DL definitions overlap with many definitions concerning the delivery of instructions using technology such as online learning and e-learning. Therefore, this chapter begins by providing an analytical review of such definitions to avoid the confusion associated with DL definition.

Given that DL has developed through many stages which have been influenced by many factors, the next step of this chapter has evolved around DL historical developments and modes of delivering DL along with its related practices. Through the presentation of eight modes linked to the historical development stages of DL, this chapter provides a clear picture of DL historical development to capture features that have developed over time and identify the latest modes and practices of DL.

Ideal practices of DL have varied from mode to mode and what have been seen as ideal DL practices in one mode have been seen differently in another. DL practices have stemmed from many pedagogical backgrounds; therefore a review of these practices from the three predominant DL pedagogies can highlight the core elements that were used to describe ideal practices. Accordingly the third part of this chapter is dedicated to discussing the ideal DL practices associated with each pedagogy as well as identifying the core elements around which DL practices have evolved.

The review of the literature then discussed the attempts by various authors to describe quality and sustainability in DL as a system that has different components. Those attempts were reviewed chronologically in order to pinpoint the historical development of DL and to highlight those aspects that were considered essential in those models. Finally, in this chapter, a thematic review of the quality DL criteria, developed by the 16 international accreditation bodies, was conducted so as to capture a detailed account of what constitutes quality in DL and how this quality can be evaluated. Through the different stages of the literature review in this chapter, the study was able to achieve its first two objectives (see Chapter I).

2.2 DISTANCE LEARNING DEFINITION

The paradigm that defines education as the process by which an instructor in a class teaches students in the same place and at the same time, has undergone radical changes with the technological advancements and the so called democratisation of education (Moore et al., 2010). This has led to the introduction of different settings and methods for the delivery of education and instructions. The complexity of the new methods of delivering education has created overlapping definitions and terminology. This is particularly the case with respect to the three terms which, according to Moore et al. (2010), even the recipients of the three delivery systems were not able to distinguish between. These three systems are Online learning, E-learning and Distance learning (DL) which are used interchangeably in the literature related to distance learning. Other terms that are pertinent to learning at a distance include: Blended learning, Collaborative learning and Mobile learning. These were, in most respects, addressed as part of these three aforementioned forms of distant learning. It is therefore of great importance to distinguish between the terms: Online learning, E-learning and Distance learning in order to build a solid ground on which the study can use and define the term 'DL'. In doing so, the definitions of these terms are discussed respectively.

- **Online learning**

The term online learning was defined by Volery and Lord (2000, p. 217) as

> "A form of distributed learning enabled by the internet. Online delivery goes beyond traditional computer learning as it makes full use of the internet and other digital technologies. Online delivery can facilitate distance education by making course material accessible anytime anywhere".

Benson's (2002) definition, on the other hand, restricted online learning to learning with the web-based technologies to enhance students' experiences with no reference to its ability to replace the traditional face-to-face system (traditional face-to-face system from now on will be referred to as TL). A similar definition to that of Benson (2002) of online learning was put forward by Conrad (2002) to reflect its ability to provide more accessibility to students than the conventional learning. Another definition by Carliner (2004, p.1) reflected aspects of E-learning (which will be discussed later); he defined online learning as "learning and other supportive resources that are available through a computer". Furthermore, Oblinger and Oblinger's (2005) definition of online learning focused on a delivery method that offers more flexibility and accessibility. In addition to those definitions, a broader view of online learning was offered in the Hiltz and Turoff's (2005, p.60) definition that described online learning as a "new social process that is beginning to act as a complete substitute for both distance learning and the traditional face-to-face class".

In these latter definitions, a clear overlap between the definitions of distance learning and online learning can be distinguished which reveals blurred lines between the use of DL and online learning in the literature. However, more definitions could be useful to clarify this overlap; good examples of these definitions are Ally's (2008) definition which added that online learning is a system of delivery that is more concerned with providing support to students in their learning, with its ability to offer more accessibility and flexibility, but does not work as a separate system. The other example can be drawn from Rekkedal and Qvist-Eriksen's (2003) definition of online learning as a support for students who study in any educational system, whether distance or face-to-face. In light of the aforementioned definitions, it can be said that online learning is a form of internet-based instruction delivery that supports students' learning experiences with its ability to offer flexibility and accessibility.

- **E-learning**

The term e-learning was defined by Nichols (2003) as a web learning tool that is used in distance or online learning to enable students to develop a learning experience with no physical face-to-face contact or learning materials. Triacca et al. (2004, p.1) associated e-learning with the web-based learning applications. They described e-learning as "a web application which communicates contents and structures the interaction in such a way that facilitates the learning experience". A broader description was put forward by Ellis and Allen (2004) to cover many aspects of online learning discussed above and more by describing e-learning as a bigger system that encompasses many applications that include: computer-aided learning, synchronous classes, collaborative networks, internet-based access, TV, multimedia and electronic learning materials. This definition was also reflected in Tavangarian et al. (2004, p.2) who described e-learning as "All forms of electronic supported learning and teaching which are procedural in character and aim to effect the construction of knowledge with reference to individual experience practice and knowledge of the learner".

A more general definition was put forward by Rossiter (2002) to associate generally the use of Information and Communication Technology (ICT) in any educational process with e-learning, which included any interaction and activities with other participants. This goes hand in hand with Clark's (2002, p.2) definition which linked the use of computers in learning with an e-learning definition by describing e-learning as "Content and instructional methods delivered on a computer (whether on CD-ROM, the Internet, or an intranet), and designed to build knowledge and skills related to individual or organizational goals".

Finally, in the literature definitions of e-learning, the terms 'online learning' and 'e-learning' were interchangeably used by many authors to reflect the similarity in nature between these two. Examples of these definitions were Dringus and Cohen (2005) and Relan and Gillani (1997) who described e-learning as an internet-based learning that facilitates interaction and access to web-based knowledge.

To summarise, it can be assumed that the term 'e-learning' is broader than online learning in its capacity to include online learning features as an internet/network-based learning and any shape or form of the use of electronic materials in enhancing learners' experiences.

- **Distance learning**

The definition of distance learning has evolved historically; therefore it is worthwhile to consider addressing its definition chronologically. Moore (1990, p.xv) defined distance learning as "all arrangements for providing instructions through print or electronic communications media to persons engaged in planned learning in a place or time different from that of the instructor or instructors". After distance learning began to capture more interest from institutions and authors in the educational fields, Keegan's (1996) definition of distance learning reflected this move by directing the focus on defining the roles of instructors and students in the process of learning at a distance. In line with this, the definition of distance learning has evolved to cross the line of being a support delivery system to an emerging comprehensive educational delivery system that "replicates traditional 'teaching by telling' across barriers of distance and time" as described by Dede (1997, p.1).

This was echoed by Newby et al. (2000, p.210), who defined distance learning as "an organized instructional program in which teachers and learners are physically separated". Other definitions of distance learning have begun to describe it as an improvement on the traditional face-to-face educational delivery system. An example of this is the definition of King et al. (2001, p.10) who described distance learning as "improved capabilities in knowledge and/or behaviours as a result of mediated experiences that are constrained by time and/or distance such that the learner does not share the same situation with what is being learned". With the advancements in technology, the term distance learning begun to embrace more technologically orientated educational approaches and represented as an umbrella for these approaches. The latter description of distance learning can be clearly demonstrated in Conrad's (2006) definition that listed online, technology mediated learning, virtual learning, online collaborative learning and web-based learning under the umbrella of distance learning.

In line with Conrad's (2006) description of distance learning, Guilar and Loring (2008, p.21) have expanded the term 'distance learning' by stating that "Distance Learning occurs when learners and faculty do not meet face-to-face in the same physical space".

In conclusion, an agreement amongst all the presented definitions that addressed distance learning, showed that distance learning is seen as a comprehensive system of delivering education at a distance which is a parallel or more improved educational system compared to the traditional face-to-face system. This system cannot be seen as mere internet-based instruction delivery that supports students' learning experiences with its flexibility and accessibility as is the case of online learning, neither is it a form of e-learning that uses electronic materials in enhancing learners' experiences. In light of this, it can be concluded that the term ***Distance learning*** reflects a comprehensive education delivery mode that encompasses both online learning and e-learning in its approach to deliver education to students at a distance. Hence, the term 'Distance Learning' (DL) used in this study, reflects the definition concluded above.

2.3 THE DEVELOPMENT OF DISTANCE LEARNING

Technological developments have influenced educational practices around the world, coming together to offer enormous changes in the educational process by presenting new methods, tools and practices of education delivery; teaching and learning can now occur in different times and spaces through an artificial medium. This approach is reflected by the term "Distance Learning", which has become an indispensable part of mainstream education in developed countries and is on its way, also, to playing an essential role in developing countries' mainstream education systems, so as to meet the growing need for constant skills development and training which are the driving force behind social and economic development (Moore, 2013). The review of DL's historical development helps to identify the different development stages of DL and their influences on the DL practices at each stage. This, in turn, provides the study with a clear view of what has been achieved and what is yet to be achieved in terms of enhancing the DL experience.

The concept of DL was first presented in the late 1800s by Sir Isaac Pitman in the foundation of his correspondence college in England. This concept was further developed in many countries (Canada, Germany, Australia, USA, Japan and the Soviet Union) to be the first, and only, model of delivering courses at a distance (Gooley and Lockwood, 2012). With the available technologies, institutions have begun to offer different modes of distance learning to suit the needs of its consumers, taking into consideration the fiscal needs of these modes.

Eight key distance learning modes have emerged since the introduction of DL as a new delivery system of education.

DL different modes are suggested by Gooley and Lockwood (2012) to have different characteristics in relation to the roles of the institutions, faculty members and students. Accordingly, a review of eight modes of DL is presented below to shed light on the roles of the institutions, faculty members and students associated with each mode.

- **The examination preparation mode**

This mode, as described by Bork and Gunnarsdottir (2012), was first used by the University of London and is still used now by many distance learning institutions in developing countries. In this mode, students are taught to study autonomously with no learning materials, compulsory instructions or teaching. The university role, in this mode, is to offer a degree after an examination; students only receive information regarding the examination regulations and procedures. Faculty members are only evaluators in examination situations which makes them absent throughout all the learning processes. This mode may offer the highest autonomy level and the lowest fee to distance learning students but it requires high levels of student independence when it comes to learning, without any teaching or instructions to acquire a certain degree.

- **The correspondence mode**

This mode, as detailed by Holmberg, Hrsg and Busch, (2005) was widely used in the first phase of the distance learning evolution and its approach was predominant in most, if not all, distance learning institutions in the middle 90s period. In this mode, distance learning institutions had to provide printed or written learning materials to their students in order for them to be able to learn, produce assignments and to receive correction, feedback or instructions from the institution using the postal service. Students were to accomplish their learning tasks by using the provided materials with no other learning activities carried out by the faculty members other than receiving feedback. Faculty members were expected to produce the learning contents, evaluate students' assignments and provide feedback, making their role partially absent, as they acted as a part of the institution's mission. In many aspects, this was a cost-effective mode of distance learning that is still extensively in use by universities like: the University of South Africa, the English correspondence college and the French Ecole University.

- **The multimedia mode**

Bork and Gunnarsdottir (2012) suggested that the advancements in the media in the late 90s triggered the introduction of the multimedia mode that is characterised by the use of different media together to create multimedia distance learning courses.

This mode is more organised and sophisticated than the last two modes. In Bork and Gunnarsdottir's (2012) description, the institution's mission grew bigger than before and encompassed many teams to support the students' learning processes. This mode uses text, audio, pictures (slides) and video to provide better learning alongside more organised and structured distance learning courses. Students in this mode have a variety of learning materials with more structured distance learning courses that enable them to develop an individualised learning experience without the traditional classroom restrictions. The Faculty members' mission in this mode has encompassed consultation along with their role in the correspondence mode as the multimedia production process requires faculty members' instructions to comply with the provided contents. In the late 90s most distance learning institutions around the world adopted this mode after it had first been developed by the British Open University, which made this mode the marker for the beginning of bigger and more organised distance learning centres (Bork and Gunnarsdottir, 2012).

- **The group distance learning mode**

According to Holmberg, Hrsg and Busch (2005), the introduction of this mode has historically followed the multimedia mode which is closely related to the traditional classroom learning as students have to attend a compulsory classroom lecture site but not at the same place as their lecturers. Institutions in this mode use radio and television to stream live lectures to students in distant classrooms without any obligation to provide any further learning materials. Students, on the other hand, will have to attend those lectures together, watch or listen to them, write notes and discuss them. Moreover, they will have to depend heavily on their notes and discussions making this mode extremely independent and therefore placing more responsibility on the students.

Apart from lecturing higher numbers of students in a distant classroom, the faculty members' roles in this mode are no different from any traditional university faculty member's role. This mode was first developed and used by Chinese Central Radio and Television University as a distinct form of distance learning. Although this mode is considered a form of distance learning as students are removed from their educators, one may argue that this mode is breaching two golden rules of distance; learning independency and classroom attendance.

- **The autonomous learner**

According to Bork and Gunnarsdottir (2012), DL institutions have taken advantage of the beginning of the new advances in telecommunication technology and introduced the autonomous learner mode.

This mode provides the highest level of autonomy to the students by giving them the opportunity to make decisions regarding the learning activity, aims and objectives, delivery method and even the evaluation process. Students in this mode have the freedom to choose every aspect of their distance learning courses and are responsible for their progress. The institution's role is to assign instructors to its distant students to work with them as supervisors with learning agreements that work as a contract between the students and the institution/professor. Faculty members in this mode are merely supervisors and consultants who make students take full control of their learning and, most importantly, responsibilities. Although this mode shares many of the values of the examination preparation mode, it has the advantage of having an instructor/supervisor to help keep the students on the right track. By doing so, this mode provides a guided, but not constrained, level of freedom to its distance learners to help them gain the knowledge that they think is needed for a certain course.

- **The network-based distance education mode**

The technological advancement in the beginning of the 21st century has paved the way for the emergence of the new network-based distance education mode which is highly dependent on the new advanced technologies that include, but are not limited to, the use of computer networks, search engines, websites and many other methods of multiple communication that enables learners to have virtual class experiences (Gooley and Lockwood, 2012). As described by Gooley and Lockwood (2012), students in this mode have a variety of choices regarding the knowledge access, it is their choice to attend an online seminar, access a data base, use a search engine or even have an online chat with their instructors or a colleague.

The institution, in this mode, provides distance learning students with instructions, aims, objectives and information regarding the evaluation process alongside access codes so that they can have access to additional material and training. Here the availability of the advance technology is an essential part of this mode as students' learning process/activity is highly dependent on them. Faculty members' roles in this mode grew to include designing online learning experiences, mass communication, on line learning tasks and evaluation processes.

Although students do not have the level of autonomy that are presented by the previous two modes, it utilises the technological advances to provide a virtual classroom experience for those who prefer the traditional education style supplemented by many other styles of learning, which are decided upon by the students themselves.

- **The extended classroom mode**

The more recent extended classroom mode has utilised the new technologies to take the traditional classroom style to a level where more students can attend lectures from a distance. This mode originated in the US by the advocates of the traditional classroom, who believed that distance learning should be a part of traditional classroom education and not a distinct type of learning (Bork and Gunnarsdottir, 2012). According to Bork and Gunnarsdottir's (2012) description, institutions in this mode provide distance learning courses as traditional classrooms but lectures are extended by the use of communication technology to reach other students (distant students). This mode is also used by many distance learning institutions as a form of delivering distance learning courses in addition to other learning materials which make it considered a mode of distance learning.

Students in this mode have to attend the lectures provided by the institution and use the learning material to acquire the knowledge that will enable them to pass the evaluation process. Faculty members in this mode are more or less traditional classroom lecturers with the extended role of reaching distant students through the use of extra learning materials/technology especially designed for them to interact with faculty members. It can be said that this mode more or less represents the Chinese Central Radio and Television University's mode but with more technology involved to offer synchronous communication for students to communicate with the lecturers.

- **The Massive Open Online Course (MOOC)**

A relatively new emerging mode/model of DL is called the Massive Open Online Course ***(MOOC)*** which started in 2008 but only began to receive attention in 2012 (Mazoue, 2014). This mode is described by Mazoue (2014) as based on providing education to all segments of society at a distance which, in most cases, has no entry requirement or cost. Most of its learning materials are open access; participants in this mode (professors and students) share the same platform and collaborate in the production of knowledge. This includes the production of learning materials and the exchange of knowledge amongst all the participants in the course.

Although, MOOC is widely known by its previous features, it's worth mentioning that MOOC does not always guarantee open access to its materials or grant qualifications to its recipients. In 2015, more than 100 universities offered this mode with features varying from cost free to fee paying (Wildavsky, 2015). The MOOC mode is expected to expand to define the future shape of learning as connectivists see it (Siemens, 2014). (See distance learning pedagogies for more details).

In summary, DL has evolved through four main historical phases with its associated practices and methods:

The first phase was started by the use of correspondence systems based on courses guided by printed materials and accompanied by audio/video records. Postal systems were used to enable students and educators to send and receive written documents and respond to each other. In some developing countries, this system is still in use alongside other methods because of its cost effectiveness and, in some cases, because of the lack of an adequate technological infrastructure.

In the ***second phase*** more technologies were made available to DL recipients that included educational TV and radio to deliver live or recorded material to students. Audio and video-conferencing were present but were limited and most of the learning materials were recorded.

The ***third phase*** saw the introduction of multimedia systems with learning materials containing text, audio, video, and educational software applications. Distance learning materials in this phase are designed by teams of media experts and specialists, and distant learners have begun to receive some support along with the use of these materials.

Currently DL institutions have begun to use internet-based systems to provide recipients with an unparalleled experience. Learning materials encompass electronic multi-media, database resources and electronic libraries. Interaction and communication are no longer dependent on postal services and late responses, as distance learners can have a real time experience and interact with each other and with their educators using various methods of synchronous interactions.

In conclusion, the review of the literature enabled the study to have an inclusive view of the methods of delivering instructions at a distance. Moreover, this review has shed light on techniques that help to overcome barriers related to the lack of adequate tools or technology by quoting from the characteristics and application of these modes during the early phases of DL development.

Although the concept of learning at a distance stayed the same in all DL development phases, the practices and means to deliver education have undergone drastic changes. Given that practices from the different historical phases are still in use by the current DL institutions, the identification of benchmarks for quality DL suggested by Chalmers and Johnston (2012) has become a necessity to make sure that the quality of the provided DL is not negatively affected by the misapplication of these practices. Assuming that the concept of learning at a distance stayed the same in all DL development phases, defining the core elements of DL presents a valid starting point towards the establishment of the main categories (dimensions) of quality which is discussed in the next section.

2.4 DISTANCE LEARNING PEDAGOGIES

In DL situations, in which a new form of education is presented, the practices might be perceived as different and complex compared to traditional education.

It is therefore important to determine the application of DL systems from the perspective of the pedagogies that underpin them. Siemens (2014) suggests that distance learning practices have been influenced by three predominant pedagogies. Elements of DL systems considered by the different DL pedagogies highlight features of DL that should be considered by educators in building quality DL or when evaluating the quality of a current DL programme. Thus, these pedagogies and their positions regarding what are considered good practices of DL in the field are discussed in this section to pinpoint the core elements of DL. Discussion has highlighted six elements of DL: institutional mission, technology, instructional support, faculty support, student support and evaluation which are presented below with relation to their underpinning pedagogies:

I. The Cognitive-behaviourist pedagogy

According to Siemens (2014) the cognitive-behaviourist pedagogy emphasised that DL institutions must apply clear objectives and instructions that spur the desired responses from the learner. This pedagogy advocates individual learning and high independence and neglects group activities or interactions. The first element considered by the cognitive-behaviourist pedagogy was the tools to deliver learning materials or which, for the sake of classification at this review, will be refer to as technology. The technology presence in this pedagogy is centred around the use of a variety of technological aids to stimulate the learner's attention. Learning materials should be designed carefully to gain the learner's attention and the provision of high accessibility to learning material plays a key role in achieving the course objectives as prompt revision, feedback, and stimuli are essential to students' progress.

The presence of synchronous communication in this pedagogy is nearly absent, thus the need for a high capacity network infrastructure was seen by cognitive-behaviourist pedagogy as unnecessary. The second element considered by this pedagogy was the institutional role/mission. The institutional role in the cognitive-behaviourist pedagogy was to explain clearly the objectives of each DL course and emphasise the expectation and requirement of the course. The institution works as a channel between distant students and their instructors so as to guarantee immediate and prompt responses to students' inquiries and assessment of their progress. As proposed by Anderson (2012), another element was seen by the cognitive-behaviourist pedagogy as essential to the sustainability of the DL programmes in any institution.

This element was the instructional support which plays an important part in designing the DL courses. The instructional support in this pedagogy is part and parcel of the development process of DL course materials which are the building blocks of the whole DL system. The provided instructional support must ensure the development of high quality learning materials which use a variety of stimuli that reflect the courses' objectives. Instructional support must also be provided to faculty members to play an active role in the design process of learning materials to be able to respond to students' inquiries and use their feedback for future developments of the courses. According to Anderson (2012), faculty support was considered as an important element in the success of DL institutions. Faculty members' active engagement with students as their sole interaction, as proposed by this pedagogy, provides students with the prompt stimuli and assessment which is which is seen as fundamental. Therefore, this pedagogy sees the provision of time and rewards for faculty members to engage actively with the students as fundamental to DL quality.

Terry (2011) suggested that another element considered in this pedagogy was the support for students. Essential to the provision of this in the cognitive-behaviourist pedagogy is the provision of adequate information about the course objectives, the available methods of contacting the instructor and the channels used to communicate feedback to the institution and the instructor. Finally, in this pedagogy, Terry (2011) proposed that the evaluation process in DL institutions be divided into two aspects: the evaluation process for students and the evaluation process for the whole programme. The evaluation process for the students was centred on the availability of prompt assessment, which is followed by feedback and stimuli, followed by assessment which reflects a circle of assessment, stimuli and feedback. This process also involved a high level of engagement from faculty members in order to maintain and observe this circle and provide guidance if necessary.

The evaluation process for the DL institution was depicted, in the cognitive-behaviourist pedagogy, to be highly influenced by the students' feedback as the institution's performance and future development should be guided by it (Gokool-Ramdoo, 2008).

II. The Social-constructivist pedagogy

This pedagogy has addressed the same elements presented in the previous pedagogy but from a different perspective. According to Anderson (2012) this pedagogy is centred on the creation of socially constructed knowledge and the notion that knowledge is built in the minds of learners through interaction and social processes, and not by individual efforts. He suggested that technology plays an important part in the building of knowledge.

According to Siemens (2014), opposite to the cognitive-behaviourist pedagogy, DL institutions' technological infrastructure must have the capacity to facilitate mass interactions and support activities related to building knowledge based on interaction between the faculty members and the distance students. This entails the provision of technical support and DL applications that facilitate such interaction. The provision of synchronous communication plays an essential part in delivering education to learners which entrenched the role of technology in this pedagogy.

Siemens (2014) suggests that the institution's role in the social-constructivist pedagogy has changed from the facilitator of communication channels between DL students and their instructors to encompass providing adequate network infrastructure and support for DL learning recipients. Training and provision of well-equipped facilities and software to enhance DL participants' active engagement in the system was deemed as essential to the institutional role. The institution's provision of assessment that is based on multiple-perspectives and mass communication lies in the institution's ability to utilise the available technological means.

The instructional support, on the other hand, as suggested by Anderson (2012), is more obvious in this pedagogy. The heavy engagement between faculty members and students entails carefully designed group activities. This means that the provision of training for faculty members on the instructional methods that cover aspects of technology in DL is considered essential in the social-constructivist pedagogy. Instructional support also advocated the provision of applications that support heavy synchronous engagements between students and faculty members which put forward training, again, in the provision of the instructional support equation. The same aspects of faculty support were also considered in this pedagogy but for different reasons.

Unlike the cognitive-behaviourist pedagogy, the provision of time and rewards for faculty members were necessitated by the demand for their heavy engagement in mass and synchronous communication, not the prompt response as this pedagogy stresses the need for social interaction in the process of building knowledge (Anderson, 2012).

The support for students features in the social-constructivist pedagogy as described by Terry (2011) is more advanced when compared to the previous pedagogy. It encompasses the provision of access to professional development and high levels of synchronous communication that are facilitated by the technical support teams to guarantee the adequacy of the provided communication and online services.

Finally, the evaluation element in this pedagogy was described by Kang and Gyorke (2008) as reflected through its focus on building an equivalent experience compared to the traditional education activities.

It stresses that the same procedures applied in the traditional education system must be applied in the evaluation process for DL programmes with regards to its used methods, learning materials, content and outcomes. Additionally, it emphasises the use of a variety of assessments that reflect the presence of group activities and multiple perspectives when assessing students' outcomes.

III. The Connectivist pedagogy

Again the same elements of DL were considered in the connectivist pedagogy which stresses that learners should build a network of information resources (people, digital or non-digital educational content) in order to construct the sort of knowledge that enables them to succeed in problem solving situations (Kop and Hill, 2008). According to Siemens (2014) the institution's role in this pedagogy is unconventionally progressive, it opens the door wide for participants (students) to lead the learning process by introducing them to the first step (by defining the course/topic of interest) towards gaining adequate knowledge and skills to build their own networks and information resources, along with providing them with the needed knowledge (self-efficacy) to use the available networks and research tools. The institution's role here changes from a provider of DL services and support and guarantor of a certificate to a fosterer and contributor to the participants' knowledge.

Technology in this pedagogy was described by Siemens (2014) as part and parcel of the distance education system. The availability of technology in its different forms include: telecommunications systems, international/national network servers/providers and storage mediums deemed essential to the learning process.

Central to the accumulation of learners' knowledge in the connectivist pedagogy is the learners' acquaintance with technology and their ability to use the available technology resources in creating new productions and distributing new knowledge.

Anderson (2012) suggested that the instructional support in this pedagogy is not provided by the institution nor by the faculty members. The instructional support in the connectivist pedagogy lies in the participants' (student, faculty members, professors, professionals…) ability to lead discussions, develop learning materials and improve educational artefacts. Each contribution made by a participant in the field of interest is deemed an instructional support to that field of interest, making the instructional support part of the participants' learning.

The mere institutional support of the development of open access learning materials and the discussion forums are considered sufficient from the connectivists' perspective. Terry (2011) proposed that faculty support in this pedagogy takes the simplest form. The reward for the faculty members is in the process itself; faculty members in the connectivist pedagogy are exchanging knowledge with the students. This means that faculty members are, in some cases, taught by their students and the time that they spend in assessing student progress is valuable to them. Similarly, the students' support from the connectivists' perspective is insignificant compared to the previous two pedagogies. According to Terry (2011), students in this pedagogy must receive the needed support in the initial stages of enrolling in the DL programmes. Essential to students' support is the institution's provision of knowledge which helps the students to develop self-efficacy in exploiting networks and using the networks' research tools. The creation of a focal point that organises and encourages student/learner participation in a topic/course comes as the second and final consideration to students' support.

Finally, in this pedagogy, the evaluation considerations are seen by critics as a weakness point (Terry, 2011). Siemens (2014) suggested that the definition of teachers in the connectivist educational environment is changeable, students sometimes are seen as teachers and leaders of the learning process and vice versa. This entails a change in the conventional assessment methods that assume the teacher's role as an assessor to the students' progress. Accordingly, the evaluation and assessment for learners in this pedagogy are reflected by examples, the progress can be measured by the participants' contribution to the knowledge and the significance of their work to the future learners.

In conclusion, each pedagogy has its strengths and weaknesses, the cognitive-behaviourist pedagogy reflects the notion of DL in a cost-effective way, however, the social presence and context is barely reflected. The social-constructivist pedagogy, on the other hand, reflects a learning process that combines the advantages of traditional education with the advantages of DL as it provides collaborative real life experience to distant students. However, the need for an adequate technological infrastructure to support both mass and synchronous communication raises issues related to cost and technological availability. The radical change in the learning process presented by the connectivists' pedagogy might be seen as a solution for many educational problems and opens the door wide for creativity and social interactions through media and new technological availability, but many obstacles may arise when it comes to protecting intellectual property and providing adequate technological and telecommunication infrastructures, especially in developing countries.

Having a clear picture of what is considered good practice from the perspective of different pedagogical stances plays an important role in making decisions regarding many aspects of building quality DL or evaluating the quality of an existing DL programme.

As discussed above, each pedagogical stance has its advantages, depending on the available resources and the context in which the DL institutions exist. Most importantly, this review of the aforementioned pedagogies has identified six different elements of DL systems that were considered in all the three pedagogies presented in this section (see Figure 2.1).

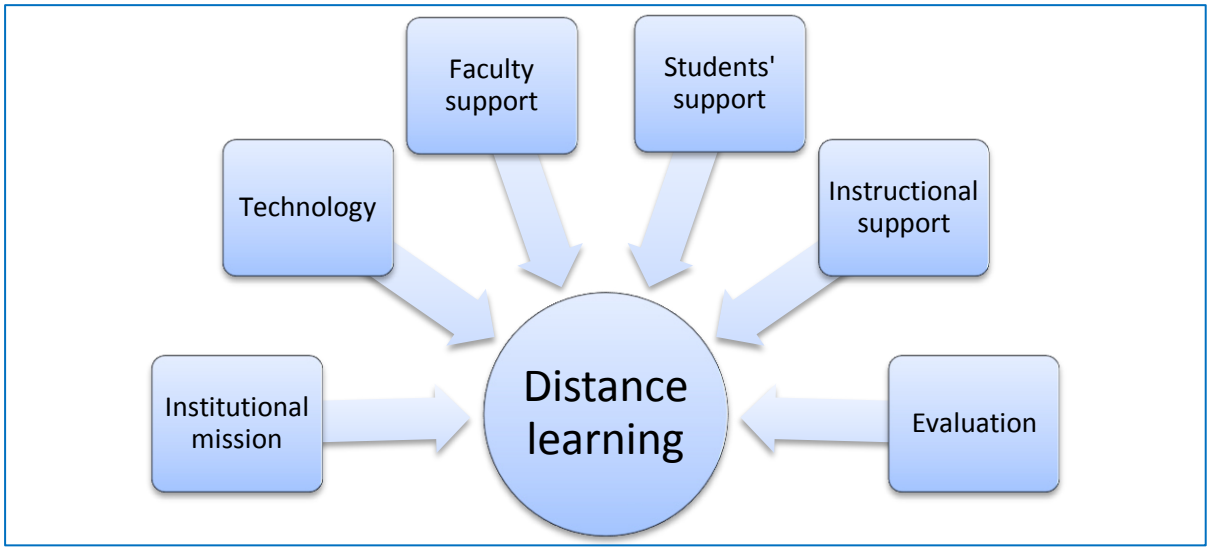

Figure 2.1: Elements of Distance Learning

These six core elements/dimensions have initiated the base for the study thematic review in the coming literature review sections and were used as the study main themes for investigation as the building blocks of the study framework.

2.5 QUALITY IN DISTANCE LEARNING

The quality of the distance learning has attracted the interest of many authors in the field, yet, the definition of quality distance learning is still a controversial issue (Kocdar, 2012). The quality of the provided DL, for instance, was defined by the DL programme capacity to provide the highest levels of satisfaction for the enrolled DL students and was indicated purely from the students' perspective (Valai, Crawford and Moore, 2015). Another definition was focused on the quality of the course development and its achievement to benchmark standards (DeAntonio and Johnson, 2014). Other attempts to define the quality of DL have also correlated it with its level of equivalency to the traditional face-to-face educational system (Jung and Latchem, 2012).

Accordingly, a clearer view of what constitutes quality distance learning as a whole system (its requirement, procedures and components) has become necessary to identify aspects as a system before embarking on providing a definition for the quality of DL.

Many studies have attempted to produce system models for DL in order to depict the DL system and address its requirements, procedures and components that are expected to result in quality DL. Du Mont and Network (2002) suggest that the review of these models offers a great opportunity to explore key aspects that govern the optimum use of DL. They continue to identify two predominant approaches for describing DL system models: DL system-environment models - where DL is described as a system that interacts with external factors outside its system environment - and DL process-function models - where DL is described by its elements that have different processes and functions.

Therefore the study approach in identifying aspects of quality DL has utilised six system models that fall into the aforementioned two categories. Accordingly, the study was able to identify 14 aspects of DL quality based on patterns of agreement between the reviewed system models. A systematic review of six different models that describe the DL system from different angles are discussed and presented chronologically to provide different historical and theoretical perspectives. These system models are presented based on two categories: DL system-environment models and DL function models. Given that the intention of this section is to identify subthemes underpinning the main core themes discovered in the previous section, the review of the six system models below aims to elaborate on how these system models are in agreement. Accordingly, the review of the six system models has utilised the six dimensions proposed in the previous section (see section 2.4) to present such a review. The six system models are presented in the light of two categories:

I. Distance learning system-environment models

The review of DL system environment models has addressed chronologically three examples and revealed the re-occurrence of 11 patterns. These patterns have highlighted the fundamental aspects of quality DL and indicated similarities between DL system-environment models. The re-occurrence of these patterns in all of the reviewed system models indicated that the need to review more models under this category is not required. These system models are presented below:

- **The Systems-Environmental Model**

Dron et al. (2000) conceptualised the DL system and provided a way of understanding operations and exchanges between DL and its environment (Dron et al., 2000).

In this model, relationships that govern DL systems and interactions with their internal elements and external environments were described.

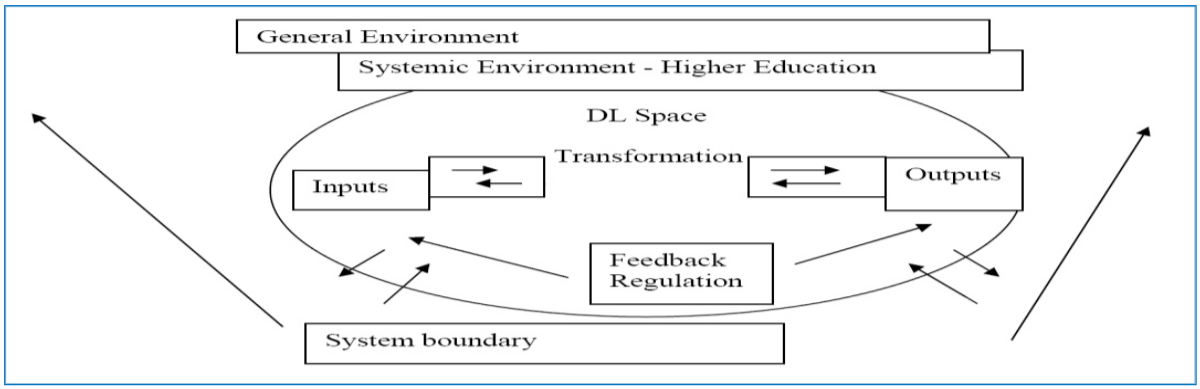

Figure 2.2: The Systems-Environmental Model, adopted from Dron et al. (2000, p. 22)

In the model by Dron et al. (2000), the institutional mission is to provide a communication channel between the system environment and higher education policies. According to this model, the institution should have sufficient control on DL inputs and outputs. Inputs to the DL space included many aspects of quality DL related to the institutional mission. For instance, the consistency and the availability of the offered DL programmes that correspond to the community needs, were essential factors classified as a system input. Furthermore, the DL institution's marketing scheme as an input was considered a key aspect of improving the "system boundary" capacity to respond to DL general environment needs.

Technology in the Dron et al. (2000) model was also considered "Input" in the DL systematic environment. The provision of adequate accessibility to DL delivery requirements was an important factor that defined the quality of the implemented technology in the DL system.

This, accompanied by the implementation of efficient technical support, covers the technological inputs. The instructional support was also addressed in the DL environment as "Input" and included the implementation of an efficient development process for DL courses. "Feedback and regulations", in this model, covered quality aspects of evaluation and support for DL students. The efficiency of the students' enrolment procedures and the adequacy of the provided accessibility to DL services were at the forefront of the considered aspects of the support for DL students. Moreover, "Feedback", in this model, included evaluating the provided DL services, "Inputs" and "Outputs" and considering the building blocks for future development in the DL system. The system "Outputs" in this model was described as the result of the transformation of the system inputs through the DL space (processes and activities) which is in a reciprocal exchange with the general environment outside the DL system environment.

In summary, this model has identified nine aspects of quality DL learning that included:

-Sufficient authority

-The consistency and availability of DL programmes that meet the community needs

-Adequate marketing scheme

-Accessibility to DL delivery requirements

-Efficient technical support

-Efficient development process for DL courses

-Efficient enrolment procedures for DL students

-Adequate accessibility to DL services for DL students

-Efficient evaluation scheme for DL programmes

- **The Distance Education Learning model (DEL)**

The Distance Education Learning model (DEL) proposed by Frantz and King (2000) reflected the same perspective of the DL system that was depicted in the Dron et al. (2000) model, but was designed as a multi-purpose framework to encompass the analysis of implementing, evaluation and designing the DL systems (see the previous model). It provides a clearer classification of DL components, compared to the Dron et al. (2000) system model, in the light of its relationships and functions and takes account of DL external factors (environment) (see Figure 2.3 on the next page).

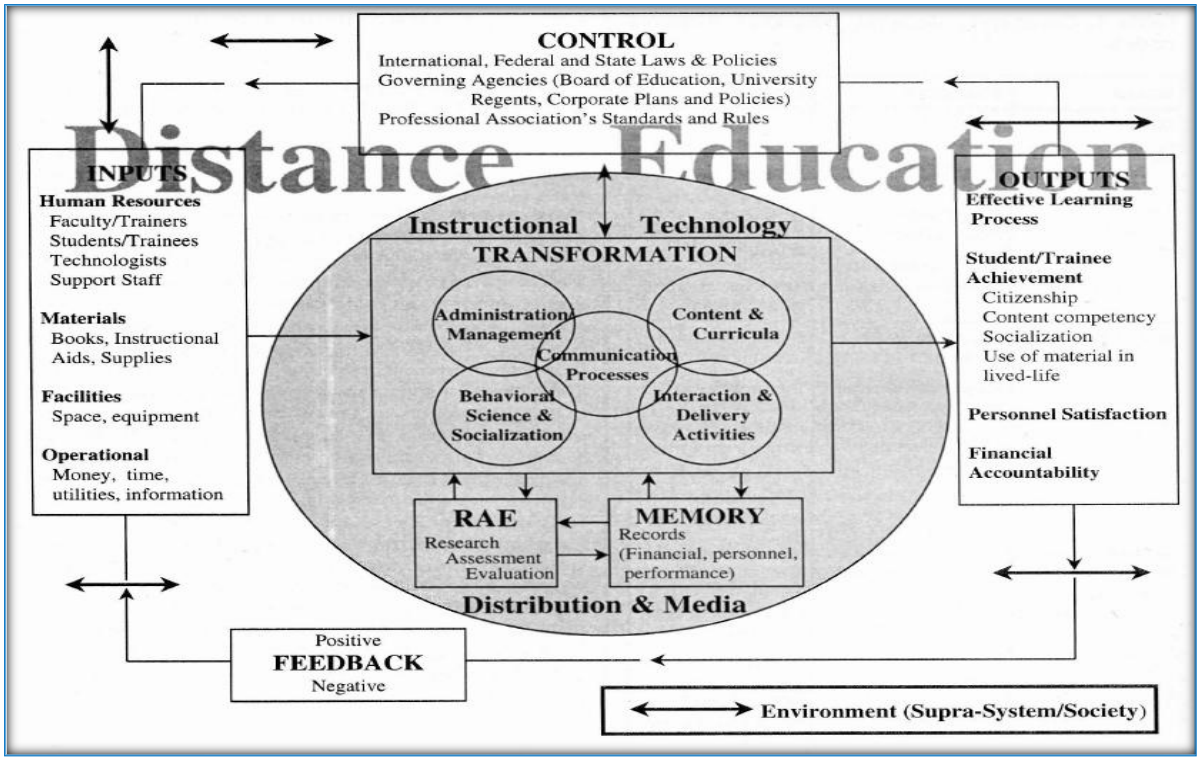

Figure 2.3: Distance Education Learning Model, adopted from Frantz and King (2000, p. 49)

Compared to the model by Dron et al. (2000), the DEL model provides a comprehensive view of the DL system with detailed descriptions of subsystems (transformation, Research Assessment Evaluation (RAE) and memory) that work inside DL systems, giving consideration to the DL environment and feedback processes. Dron et al. (2000) and Frantz and King (2000) have models which reflected the same systematic view of the DL environment that works surrounded by other environments with a reciprocal influence between them and inputs that undergo transformation processes and turn into the desired outputs. Moreover, they, in most respects, covered the same aspects of quality DL learning (see Dron et al. {2000} - Aspects of DL quality).

- **The Distance Learning Quality Model**

Jung (2012) proposed a model for quality in the DL system that depicts the influence of three domains on the student perception of DL (see Figure 2.4 on the next page).

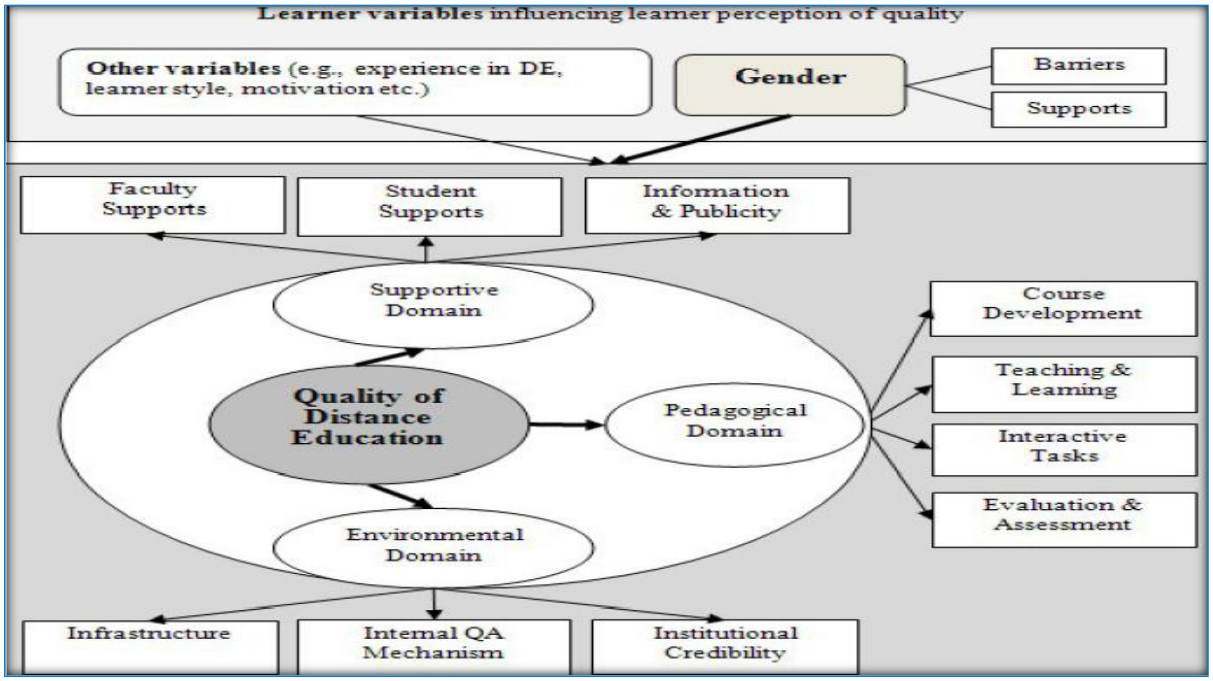

Figure 2.4: Distance Learning Quality Model, adopted from Jung (2012, p.7).

This model has captured relationships between 13 dimensions that influence the students' quality of perception. The Jung (2012) model suggests that the quality of the DL system is influenced by three domains: the supportive domain, the pedagogical domain and the environmental domain. The institutional mission in this model was spread over two domains: the supportive domain and the environmental domain.

In the supportive domain, the role of the institution in governing DL processes, providing consistent and available DL courses and communicating/publicising DL validity (marketing) in the educational community, were the considered quality aspects of the institutional mission.

The technology quality aspects, on the other hand, were present in the environmental domain. The accessibility to DL delivery and its associated technical support were addressed in the environmental domain to reflect the technological quality aspects in any DL system.

In Jung's (2012) supportive domain, aspects of faculty and student support were established. Faculty members' engagements and arrangements of reward and encouragement were addressed as aspects of quality DL. Students' support quality aspects, considered in the support domain, included DL students' enrolment procedures and the provided accessibility to on-ground services. The pedagogical domain, however, was focused on the provision of quality instructional support. Aspects of the quality instructional support have encompassed many indicators of the effective DL teaching and learning process.

They included the development process for DL courses and active synchronous tasks. Finally, with respect to Jung's (2012) model, the evaluation quality aspects were covered in two domains, namely the pedagogical and the environmental domain.

The evaluation and assessment for DL students were present in the pedagogical domain and the evaluation for the overall quality of the provided DL services was addressed in the quality assurance mechanisms and accreditation for the institution in the environmental domain. Jung's (2012) model has provided a clear description of aspects of the DL system, but was focused on factors pertinent to student perceptions on the expense of providing a detailed account of operations and relationships between the DL components revealed in the first three system models. However, it highlighted two more aspects of quality DL that were not addressed in the two previously discussed system-environment models. These were represented in the faculty members' engagements and arrangements of reward and encouragement and the measures for assessing DL students' outcomes.

II. Distance learning process-function models

Three examples of the DL system learning process-function models were reviewed. Although the review has revealed that many aspects of quality DL learning were shared by the reviewed DL system models in the two main categories, DL system-environment models (discussed in the previous section) and the DL process-function models, the review of DL system models in the latter category yielded three more aspects of quality DL.

These three aspects were shared by the reviewed DL process-function models as essential to the establishment of quality DL. These system models are presented below:

- **The Distance Learning Five Systems Model**

Moore and Kearsley (1996) advocated a systematic approach to understanding DL through five interrelated systems: Sources; Design; Delivery; Interaction and Learning environment (see Figure 2.5).

Sources → ↑	Design → ↑	Delivery → ↑	Interaction → ↑	Learning Environment ↑
Student needs	Instructional Design	Print	Instructors	Workplace
Organizations	Media	Audio/Video Recordings	Tutors	Home
Theory/History	Program	Computer Software	Counselors	Classroom
Philosophy	Evaluation	Audio conferencing	Administrative Staff	Learning Center
		Videoconferencing	Other students	
		Computer Networks		

Figure 2.5: Distance Learning Five Systems Model, adopted from Moore and Kearsley (1996, p.61)

Aspects of the institution mission quality in Moore and Kearsley's (1996) model were defined under the "Sources" system that encompasses arrangements to govern the DL as an organisation, which included the use of a centralised operational centre. Under the same system, the provision for efficient scheduling processes and DL programmes that respond to students' needs, was deemed necessary. The marketing strategy in this model advocated the use of the accumulated knowledge in the DL field (represented in its Theory/History cell) in attracting students and improving the organisational sustainability. Additionally, the notion of equivalency to the traditional face-to-face education system was present in this model and reflected in its "Philosophy".

The technology quality, on the other hand, was represented in aspects of providing accessibility to DL students in the "Delivery" system. Providing adequate accessible multimedia, video conferencing and computer networks in this model necessitates sufficient technological infrastructure and support which was simply described by means of technological assistance (Moore and Kearsley, 1996).

Aspects of the instructional support are present in Moore and Kearsley's (1996) model in the "Delivery" and "Interaction" systems that were more focused on indicators of an efficient development process for DL courses that included the engagement of consultants and experts in instructional design in the development process for DL courses. The adequate provision of instructional delivery requirements was another aspect considered essential to the quality of the instructional support, which was part of the "Interaction" system manifested in skilled administration staff facilitating the students' interactions with a qualified faculty and other students. Faculty support quality in its simplest form was part of the "Interaction" system and described as the support provided to faculty members by instructional design experts. Student support was also a part of two systems; the "Sources" and "Learning environment" systems. The students' enrolment arrangements in the organisation and the adequacy of the provided accessibility to the DL classrooms and learning centres were fundamental to the quality of the provision of student support.

Finally, in this model, the evaluation aspects were addressed in the "Design" system and included the assessment for students and the whole DL organisation. The Moore and Kearsley (1996) model provided a systematic view of the DL system but it failed successfully to identify external influences from the external environment on the DL system, which can be justified by its emergence in the very early stages of DL development. However, it identified three important aspects of DL quality manifested in the notion of equivalency to the traditional face-to-face education system, the necessity for a sufficient technological infrastructure and the adequate provision of instructional delivery requirements.

• **The Functions-Structure Model**

Benathy's Functions-Structure Model (1992) provided a way of understanding DL systems in the light of its ultimate goals at a given point in time. This model was further developed by Prestera and Moller (2001) who created an analytical framework to define DL structure (see Figure 2.6).

	Goals	Structure	Management
Organization	Cell 1 - What will DL contribute to the institution's education goals?	Cell 4 - How should we structure DL within the institution to help the institution meet its goals?	Cell 7 - How will we measure success and improve DL's ability to help the institution meet its goals?
Process	Cell 2 - What are the key success factors for delivering DL such that they meet the institution's goals?	Cell 5 - How should DL functions be structured in order to be effective and help the institution meet its goals?	Cell 8 - How will we measure the efficiency and effectiveness of DL processes?
Personnel	Cell 3 - What do we need from faculty and professional staff in order to meet our DL goals?	Cell 6 - How should roles and responsibilities be defined in order to meet expectations and deliver results?	Cell 9 - How will we measure and improve teaching and learning in the DL environment?

Figure 2.6: Framework for analysing the Functions-Structure Model, adopted from Prestera and Moller (2001, p. 53)

The Prestera and Moller's (2001) nine cells analytical framework addressed aspects of quality DL in the light of three horizontal elements and another three vertical elements. The institutional role was present in cells 1, 4, 5 and 6 that test the institutional authority, marketing ability and functionality in providing equivalent experiences to the face-to-face experience in availability and accessibility. Technology in this model was manifested in cells 2 and 8 that measure the institution's ability to provide sufficient technological infrastructure and efficient delivery to DL requirements with its associated technical support.

A fundamental part in achieving the main goal of any DL system was put forward by Prestera and Moller (2001) in cells 2 and 9 by testing the development processes of the DL courses and its materials with its associated instructional delivery requirements. In cell 3, measures for encouraging engagement by faculty members and personnel (administrators) and the needed qualifications and rewards were addressed to reflect quality aspects of faculty support in this analytical framework. Quality aspects of student support and evaluation were manifested in the questions posed in cell 7, which was about testing the institution's ability to provide quality services for DL students and evaluate the system outputs. These aspects included: students' attrition rate and their satisfaction with the provided services, evaluation of the institutional output in the light of its main goal which stressed the provision of clear steps to assess student output and the overall programme output.

The Prestera and Moller (2001) model provided a goal-orientated model of understanding and assessing the quality of DL, but in most respects was centred on achieving administrative mission at the expense of the other more important educational aspects of DL. This excluded many aspects of evaluation for students and confused support for faculty members with administrators. However, it succeeded in providing a goal orientated approach that covers all the aspects of quality revealed in the previous models.

- **The Three Activity Systems Model**

With the emergence of the use of the activity theory in analysing technological-orientated systems, Robertson (2008) proposed a model derived from the activity theory (see Figure 2.7) to describe DL components and the relationships between them. He divided DL activity into three different activities: organisational; technological; and pedagogical.

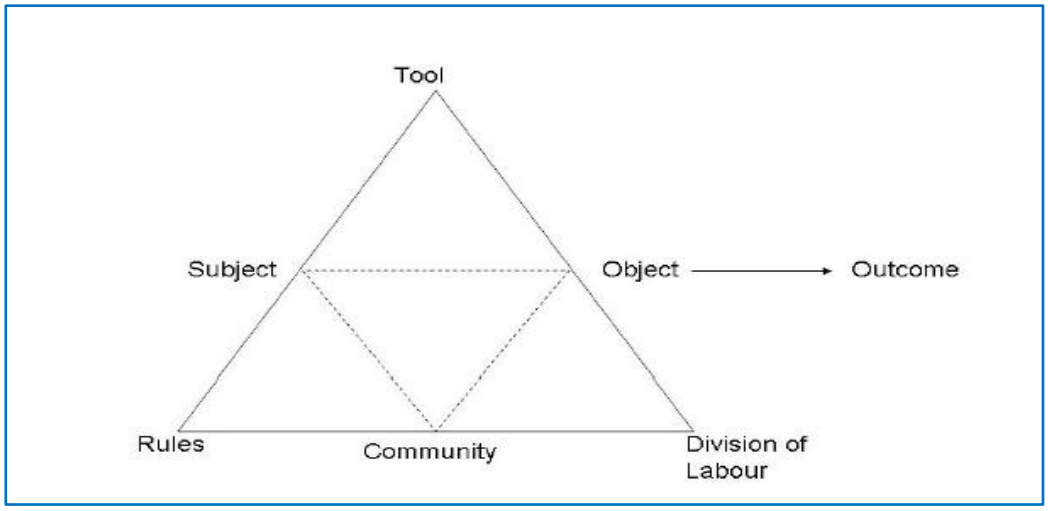

Figure 2.7: The Activity System Model in distance learning, adopted from Robertson (2008, p.280)

In this model, components of DL learning were well-defined and the functions and relationships were comprehensively organised. Robertson's (2008) model revolved around the existence of a boundary object represented in the provision of quality sustainable DL that forces collaboration between the three activity systems. Although the three activity systems vary in their description of activities and processes around them, they all centred around eight themes: activity, objects, subjects, tools, rules, division of labour, community and outcomes. The eight themes in the organisational activity system revolved around quality aspects of the institutional mission and evaluation of the DL activities.

The activity theme defines the institutional role in the activity that the organisation aims to implement (DL in this model) and the object theme defines the ultimate goal of providing quality and sustainable DL, which is the boundary object in Robertson's (2008) description. Subjects (administration staff) of the organisational activity system's community (i.e. investors, senior management, staff, teachers, clients) need to utilise the division of labour structure (their position in the organisation with its different responsibilities in the DL activity), tools (arrangements and processes) and rules (DL regulations and policies) to provide quality DL learning that is sustainable.

Sustainability in this system is based on an organised authority that guarantees consistency in the provided DL courses and is able to attract DL consumers by reflecting equivalent value to the traditional face-to-face system (the outcome theme in the organisational activity system). The evaluation aspects are also present in the outcome theme that questions the achievement of the desired outcomes at both the students' and the organisation's general levels.

On the other hand, the same eight aspects in Robertson's (2008) technological activity system addressed quality aspects pertinent to technology in DL systems. The activity theme has a definition of the technology role in the DL activity and the object theme remains the same in the organisational activity system as it is the claimed boundary object that forces collaboration between the three activity systems involved. Subjects (staff involved in IT) in the technological activity system's community (i.e. developers, programmers, designers) need to utilise the available tools (technological hardware, software and resources), division of labour (roles of the personnel involved in technology), rules (standards of quality in technology) to provide quality and sustainable DL activity. Sustainability in the technological activity system is reflected in the outcome theme which addresses the technological infrastructure, support and accessibility to learning materials.

Finally in Robertson's (2008) model the pedagogical activity system addressed quality aspects of faculty, student and instructional support. The activity theme defines the role of teachers and learners in the DL activity system. Similar to the organisational and technological activity systems, the object theme of building quality and sustainable DL remained the same. Subjects (students and teachers) in the pedagogical activity system's community (i.e. teachers, students, instructional designers) are expected to utilise the available tools (i.e. learning resources, curriculum, activities, instructional methods), division of labour (roles of the subjects involved in the educational process), rules (i.e. curriculum, norms of discipline) to provide quality and sustainable DL activity. Sustainability in the pedagogical activity system is reflected by the outcome theme, which highlights quality aspects of instructional support that include course development processes and instructional delivery requirements.

Moreover, it highlights quality aspects of faculty and student support as issues of faculty roles and rewards and students' enrolment and accessibility to DL services were addressed. Robertson's (2008) model addressed DL system quality and sustainability comprehensively through identifying three activity systems. In doing so, aspects of quality DL were clearly defined, especially in the case of the provision of equivalent value to the traditional face-to-face system, efficient technological infrastructure and adequate provision of instructional delivery requirements.

In conclusion, the review of the six different system models of DL (in the previously discussed two DL system model categories) has addressed the key aspects, relationships and procedures that govern the quality and sustainability of DL from different standpoints. Although each model has proposed a different view of the DL system and its operation and aspects, the prevalent key quality aspects can be fairly summarised in 14 aspects classified under six main categories/dimensions (see figure 2.8).

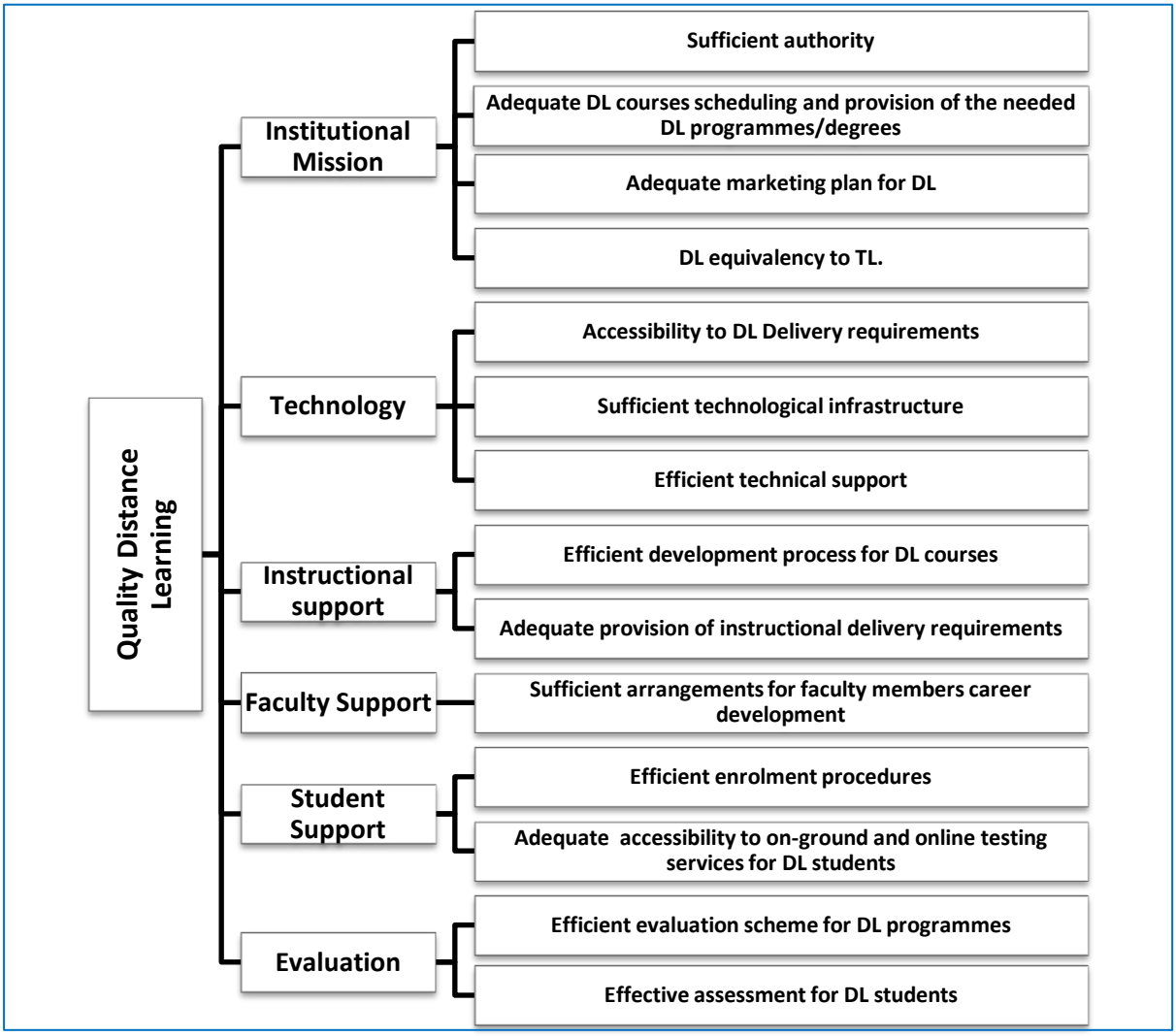

Figure 2.8: Distance learning 14 aspects of quality

Although the definition of quality in DL is still an on-going debate, Chalmers and Johnston (2012) argue that accreditation criteria issued by DL accreditation bodies play an important role in defining the quality of any DL programmes. It is, therefore, the literature review, in its next step, addresses the issued quality criteria of the 16 international accreditation bodies to have a comprehensive look at what constitutes quality according to the international accreditation bodies. After identifying aspects of quality in DL systems (in this section) in relation to its main dimensions (see section 2.4), the study sought detailed criteria of quality DL based on the internationally developed criteria for DL and its relationship to the study proposed dimensions and aspects of quality DL (see next section).

2.6 DISTANCE LEARNING INTERNATIONAL QUALITY STANDARDS

In light of the variety of methods and technologies used to deliver DL programmes, the need for classified, well-defined and applicable standards in assessing the quality of DL programmes was stressed in many studies (Chalmers and Johnston, 2012; DeAntonio and Johnson, 2014; Valai, Crawford and Moore, 2015). Many higher accreditation bodies have attempted, through conducting multiple studies, to identify criteria to assess the quality of DL programmes. By reviewing these attempts, an outline can be drawn of the criteria to be considered when making such an assessment. Accordingly, the study strived to identify criteria/standards of quality DL through thematically analysing the quality criteria issued by the 16 internationally recognised accreditation bodies (IADL, 2013).

In doing so, the review of criteria produced by these DL quality accreditation bodies has utilised the previously discovered six dimensions (see DL pedagogies) as the broader themes of investigation and the 14 aspects of quality (see the previous section) as the subthemes. Accordingly the study was able to produce comprehensive criteria that are organised into categories to assess the quality of DL programmes. In this review, the mandatory criteria shared by these accreditation bodies were used as the building blocks that eventually constructed the study evaluative framework to guide the study assessment of the current quality of its targeted programmes.

The study review of the 16 international DL quality accreditation bodies has identified five groups which have a shared focus on particular dimensions and its related aspects of quality (see table 2.1 on the next page).

Table 2.1: Distance learning accreditation bodies' dimensions of focus and their shared aspects

Groups	DL accreditation bodies	Shared dimensions	Shared aspects
Group A	-BILD(2011) -BAC(2011) -ACTDEC (2012)	- Institutional mission - Technology - Instructional support - Evaluation	- Sufficient authority - Adequate marketing plan for DL - Adequate accessibility to DL delivery requirements - Efficient development process for DL courses - Efficient evaluation scheme for DL programmes.
Group B	-LAN(2009) -AHEA(2010) -AACSB (2011)	- Institutional mission - Technology - Student support	- Adequate DL courses scheduling and provision of the needed DL programmes/degrees - Sufficient technological infrastructure - Efficient enrolment procedures
Group C	-USDLA (2010) -DETC (2011) -CHEA (2012)	- Institutional mission - Instructional support - Faculty support - Evaluation	- DL equivalency to TL - Adequate provision of instructional delivery requirements - Sufficient arrangements for faculty members career development - Effective assessment for DL students
Group D	-IAU (2010) -ODLQC (2011) -IADL (2012)	- Technology - Instructional support - Faculty support - Student support - Evaluation	- Efficient technical support - Efficient development process for DL courses - Sufficient arrangements for faculty members career development - Adequate accessibility to on-ground and online testing services for DL students - Efficient evaluation scheme for DL programmes
Group E	-DLAC (2010) -EAC (2010) -ECBE (2011) -QAA (2012)	- Institutional mission -Technology - Faculty support - Student support	- Sufficient authority - Adequate accessibility to DL delivery requirements - Sufficient arrangements for faculty members career development - Efficient enrolment procedures

A detailed account of criteria produced by each group is presented below:

- **Group A**

The review of standards produced by the British Institute for Learning and Development (BILD, 2011), the British Accreditation Council (BAC, 2011) and the Accreditation Council for TESOL Distance Education Courses (ACTDEC, 2012) showed that they were focused upon four quality dimensions: the institutional mission, technology, instructional support and evaluation. They were centred on five quality aspects: sufficient authority; adequate marketing plan for DL; accessibility to DL delivery requirements; efficient development process for DL courses and an efficient evaluation scheme for DL programmes. Group A compulsory quality criteria, related to the institutional mission, stressed the need for consistency across all forms of instruction; collaboration across all service departments; a marketing plan that promotes the importance of DL and emphasises students' requirements and expectations.

Moreover, in their compulsory quality criteria addressing technological requirements, they emphasised the importance of providing easy access to DL materials; access to a variety of electronic reserves (through regional college partnerships) and the availability of adequate levels of synchronous communication and social activities. Additionally, their mandatory quality criteria concerning the efficiency of the development process for DL courses included: the use of technology that meets the course needs, the provision of adequate training, assistance and time for faculty members to develop DL courses. In conjunction with this, quality criteria of an efficient evaluation scheme for DL programmes emphasised the importance of conducting regular evaluation for DL programmes which includes instructional methods; the technology used; the consistency between DL and TL evaluation schemes and the adequacy of the measures used to seek feedback from students and faculty regarding DL programme quality, which included policies and services.

- **Group B**

In accordance with group A, quality standards issues by the National Accreditation Board (LAN, 2009), the Adult Higher Education Alliance (AHEA, 2010) and the Association to Advance Collegiate Schools of Business (AACSB, 2011) focused on two of the quality dimensions addressed by group A, but also stressed the importance of issues related to the students' support dimension. Their criteria addressed quality aspects of: adequate DL courses; scheduling and provision of the needed DL programmes/degrees; sufficient technological infrastructure and efficient enrolment procedures.

Essential to the adequacy of DL courses, scheduling and provision of the needed DL programmes/degrees, were the consistency of the scheduled courses for the degree of all enrolled students and the adequacy of the provided DL degrees that meet the community needs.

Furthermore, their quality criteria, addressing the sufficiency of the technological infrastructure, stressed the importance of the efficiency of the network infrastructure to deliver DL classes. Concerning the quality in the student support dimension, their quality criteria of efficient enrolment procedures emphasised the need for fully online registration procedures; the adequacy of the provided information about the new student requirements, policies and guidelines through scheduled training courses and different media and the accessibility to all information concerning DL through the website.

- **Group C**

Quality standards issued by the United States Distance Learning Association (USDLA, 2010), the Distance Education and Training Council (DETC, 2011) and the Council for Higher Education Accreditation (CHEA, 2012) were focused on four quality dimensions: the institutional mission; instructional support; faculty support and evaluation. They were centred on four quality aspects: DL equivalency to TL; the adequate provision of instructional delivery requirements; sufficient arrangements for faculty members' career development and effective assessment for DL students. Their mandatory quality standards, addressing the DL equivalency to TL, have included the application of the same TL programme requirements, recognition of DL certificates and accreditation to DL courses.

Moreover, their quality standards, concerning the adequate provision of instructional delivery requirements, emphasised the importance of: providing scheduled training courses for DL technological aspects for faculty members and students; support for faculty members' activities related to DL methods; the application of an adequate level of synchronous communication and faculty members' quick response to student inquiries, assignments and test grades. Additionally, their quality criteria, addressing the sufficient arrangements for faculty members' career development, have put forward the reward for faculty participation, innovations in the DL field and the adherence of DL faculty members development criteria to their performance in the field as essential to obtain accreditation for any DL programme.

Essential to the effectiveness of the assessment for DL students, the quality criteria of group C concluded that: a variety of assessment methods must be employed to assess students' outcomes during the semester and a variety of questions must be used to assess student outcomes in the final examination.

- **Group D**

Similar to groups A, B and C quality standards, the International Association of Universities (IAU, 2010), the Open and Distance Learning Quality Council (ODLQC, 2011) and the International Association for Distance Learning (IADL, 2012) quality standards have covered the same dimensions (technology, instructional support, faculty support, student support and evaluation). However, they were focused on five quality aspects that encompassed: efficient technical support; efficient development process for DL courses; sufficient arrangements for faculty members' career development; adequate accessibility to on-ground and online testing services for DL students and an efficient evaluation scheme for DL programmes. Their mandatory quality standards, concerning the provision of efficient technical support, have stressed the importance of the adequacy of the technical support centre equipment (hardware and software); the adequacy of the training provided for its personnel; the availability of a range of communication options and times for DL recipients and the inclusion of DL technological needs in the DL institution budget cycle.

Criteria that address efficient development processes for DL courses emphasised the application of institutional standards to all DL programme learning materials and DL equivalency of content and outcome to TL, which must be reviewed and verified by its related departments. In conjunction with this, quality standards, related to sufficient arrangements for faculty members' career development, were, in most respects, similar to quality standards issued by Group C. Additionally, the provision of access to libraries, to a career, to professional development and to networking for all DL students; an efficient online testing service and recognition and response to DL students' needs through collaboration between students' services departments and DL services departments were all considered mandatory to providing adequate accessibility to on-ground and online testing services. Moreover, the importance of providing objective feedback to DL faculty members from DL students was stressed as essential to DL evaluation schemes.

- **Group E**

The conducted review of quality standards issued by the Distance Learning Accreditation Council (DLAC, 2010), the European Accreditation Council (EAC, 2010), the European Council for Business Education (ECBE, 2011) and the Quality Assurance Agency for Higher Education (QAA, 2012) indicated that their quality standards have covered four dimensions which included: the institutional mission, technology, faculty support and student support.

Although they contained some of the previously addressed quality standards (in Groups A-D), they made an important addition to the quality criteria of the provision of accessibility to DL delivery requirements.

Quality standards in group E have addressed four aspects, namely: sufficient authority; accessibility to DL delivery requirements; sufficient arrangements for faculty members' career development and efficient enrolment procedures for DL students. Mandatory quality accreditation standards, concerning the provision of sufficient authority, were similar to standards issued by Group A. The important addition, added to quality standards of the provision of accessibility to DL delivery requirements, has stressed the importance of the DL application ability to provide integration across all DL service departments and the adequate manageability and accessibility that DL applications provide. Quality criteria related to the provision of sufficient arrangements for faculty members' career development were parallel to those introduced by most of the reviewed accreditation bodies' standards (see Groups C and D). Again, quality criteria, concerning the efficiency of the enrolment procedures for DL students, have reflected the same criteria issued by Group B.

All the aforementioned accreditation agencies contributed to drawing up an outline for criteria of quality DL programmes. In spite of the different areas of focus (dimensions), the review of the international DL quality accreditation bodies' quality standards has revealed patterns of agreement on certain dimensions and aspects of quality DL. Moreover, despite a slight shift of focus or classification which can be ascribed to each accreditation body's targeted subject or location, the accreditation bodies' criteria did not vary significantly. Accordingly, the study was able to build an evaluative framework based on the synthesis of standards issued by the 16 accreditation bodies discussed in this review, classified by the study proposed quality dimensions and aspects (see Table 2.2 on the next two pages).

Table 2.2: Framework of factors for evaluating the quality of DL programmes

	I-Institutional mission dimension	
1	Criteria for sufficient authority.	Consistency of the DL regulations.
		Collaboration across all service departments.
2	Criteria for adequate DL courses scheduling and provision of the needed DL programmes/degrees	Scheduled courses for the degrees of all enrolled students are consistent and available.
		Adequate DL degrees and programmes that meet the community needs.
3	Criteria for adequate marketing plan for DL.	Marketing plan which promotes the importance of DL.
		Marketing plan emphasises students' requirements, expectations.
4	Criteria for DL equivalency to TL.	Same TL programmatic requirements are applied.
		Recognition of certificates.
		Accreditation to DL.
	II- Technology Dimension:	
5	Criteria for accessibility to DL delivery requirements.	Adequate accessibility, manageability of the used DL application.
		Access to a variety of electronic reserves (through regional college partnership).
		High level synchronous communication and social activities are available through DL applications.
		Adequate integration between DL applications
6	Criteria for sufficient technological infrastructure.	Efficient plans to fund and organize the courses' development and restoration process
		Efficient delivery of DL classes (through the network infrastructure).
7	Criteria for efficient technical support.	Technical support centre equipped with adequate hardware and software.
		Adequate training for personnel.
		Technical centre provides a range of communication options and times to DL recipients.
		Inclusion of DL technological needs in the budget cycle.
	III- Instructional support dimension:	
8	Criteria for efficient development process for DL courses.	Use of technology that meets the course needs.
		Faculty members receive adequate training, assistance, time to develop DL courses.
		Faculty members have the freedom to develop DL courses to coincide with their teaching styles.
		Institutional standards are applied to all DL programme learning materials.
		DL outcomes equivalency of content and outcome to TL are reviewed and verified by its related departments.
9	Criteria for adequate provision of instructional delivery requirements.	Scheduled training courses for DL technological aspects for faculty members and students.
		Faculty members activities related to DL methods and instruction are highly supported.
		Faculty members' quick response to student enquiries, assignments and test grades.
		High level of synchronous communication is applied.
	IV- Faculty support dimension:	
10	Criteria for sufficient arrangements for faculty members' career development.	Faculty participation, innovation in the DL field are rewarded.
		DL faculty member advancement criteria adhere to their performance in the field.

	V- Student support dimension:	
11	Criteria for efficient enrolment procedures.	Students register and pay fees online.
		Information about the new student requirements, policies and guidelines is available through scheduled training courses and different media.
		All course information is available through the website (i.e. offered courses, programme requirements, scheduling, policies, FAQ).
12	Criteria for adequate accessibility to on-ground and online testing services for DL students	Access to a library, a career and professional development, networking, is provided to all students (in campus and DL).
		Efficient online testing service.
		Students' needs are recognised and responded to through collaboration between student services departments and DL services departments.
	VI- Evaluation dimension:	
13	Criteria for efficient evaluation scheme for DL programmes	Regular evaluation for DL programmes' quality is conducted.
		DL evaluation scheme is consistent with TL.
		Input is obtained from students and faculty regarding DL programmes' quality (policies, services).
		Faculty receive objective feedback from students.
14	Criteria for effective assessment of DL students.	Variety of assessment methods are employed to assess students' outcomes during the semester.
		Various types of questions are used to assess students' outcomes in the final examination.

The establishment of an evaluative framework in the first stages of the study has enabled the study to evaluate the current status of approaches to the implementation of quality DL in general and in Saudi Arabia in particular (see the next chapter). Most importantly, it enabled the study to achieve its fifth objective of evaluating the current implementation of DL quality in Saudi Arabia from the perspective of DL stakeholders and identifying barriers to the implementation of quality DL in the country (see Chapter I) by using the produced framework as an assessment tool.

2.7 SUMMARY AND CONCLUSION

Through reviewing terminology related to DL, it can be suggested that DL can be defined as a comprehensive education delivery system that encompasses both online learning and e-learning in its approach to deliver education to students at a distance. The stages of DL historical development reviewed in this chapter suggested that DL has evolved through four phases that have influenced the emergence of eight modes of delivering DL. Although the concept of learning at a distance stayed the same in all DL development phases, the practices and means to deliver education has undergone drastic changes. Changes in DL practices and methods entail the need for benchmarks to ensure that those changes have not negatively influenced the quality of the provided DL.

Given that the DL concept did not vary between the different DL modes, which have evolved through the four historically different phases, the definition of DL core elements posed a valid choice of constructing the study dimensions to be used later as the main themes of the study's proposed evaluative framework for quality in DL.

The review of DL pedagogies has identified six core elements (institutional mission, technology, instructional support, faculty support, student support and evaluation) which represented the study's six dimensions and primary categories/themes as they were considered in all the three pedagogies discussed in this chapter. The reviewed different DL system models, that described the optimum use of DL components to deliver sustainable and quality DL, has revealed 14 essential aspects that contributed to the construction of the study subcategories/subthemes.

The thematic review of DL quality criteria issued by the 16 international accreditation bodies has identified patterns of agreement between those criteria. Despite the slight shift in focus of the criteria produced by the different accreditation bodies, aspects of the DL quality did not vary significantly. This has enabled the study, in this chapter, to conclude with a framework that encompasses DL core elements (represented in its primary themes), aspects of quality DL (represented in its sub themes) and patterns of DL criteria for quality (represented in its detailed indicators of quality). By doing so, this chapter has contributed to the achievement of the study's first two objectives (see Chapter I). The next chapter of the literature review strives to achieve the third objective which is aimed at exploring the current status of approaches to implementing quality DL programmes in general and in Saudi Arabia in particular.

CHAPTER III

APPROACHES TO THE IMPLEMENTATION OF QUALITY DISTANCE LEARNING

3.1 INTRODUCTION

Competition between DL institutions/universities has contributed to the development of different approaches towards the implementation of quality DL. DL global institutions'/universities' investments in implementing quality DL programmes put them at the forefront of DL universities. Their ability to attract DL students from all around the world made them mega universities and made their experience as leading global examples worth considering. Therefore, in an attempt to capture an image of the implementation of quality DL, this chapter started with a review of five global mega universities' experiences. Such an attempt was guided by the study framework to verify the validity of the framework and provide a systematic review of leading examples of the implementation of quality DL.

The chapter's focus shifts to provide a clear picture of the current situation of DL in Saudi Arabia. It presents historical background to the DL in the country through discussing factors that contributed to the introduction and development of DL. Then it moves on to shed light on the advantages of the application of DL in general and in Saudi Arabia in particular. This is followed by reviewing the approaches of four Saudi DL universities and local studies to highlight issues concerning the current quality of the offered DL in the country.

Finally, in this chapter, a review of the barriers that face the implementation of quality DL were addressed from three angles; students, faculty members and administrators to pinpoint the negative influence of the inadequate quality of the provided DL on the DL stakeholders internationally and locally.

This chapter, therefore, contributes to the achievement of the third objective of this study by exploring the current status of approaches to implement quality DL internationally and locally and to gain insights into the strengths, weaknesses and barriers to the implementation of quality DL learning.

3.2 INTERNATIONAL EXPERIENCE OF DISTANCE LEARNING (LEADING EXAMPLES)

Reviewing the distance learning experience globally can shed light on practices that promote some universities and DL institutions to take a leading position in the field of providing DL. Different ranking measures/systems have been applied to rank the provided DL services. This has made taking an example of a university and declaring it to be a leading university in its field, very difficult. Examples of these rankings are the world Quacquarelli Symonds (QS) ranking and The Best School (TBS) which use completely different criteria for their rankings. The QS uses a 100 point system distributed as follows: 20 points on student services and technology, 10 points on track record, 20 points on student-faculty engagement, 20 points on student interaction and 20 points on reputation (QS, 2014). The TBS, on the other hand, applies three measures: academic excellence, return on investment and incidental benefit (TBS, 2014). Therefore, a university ranked high in the QS might not considered high according to the TBS ranking system and vice versa, which makes depending on one system or the other inadequate. However, reviewing the experience of international leading examples of the so called "Mega universities" that enrol more than 50,000 students, is worth considering (Hanover Research, 2011).

Although all the reviewed mega universities were ranked in the top DL providers by the QS and the TBS, they received different ranks. Accordingly, in this review, the approaches of the key global mega universities to implement quality DL are reviewed. This review was guided by the study evaluative framework (see chapter II; section 2.6) in order to provide an organised and systematic presentation of the implemented quality in these universities. Moreover, the use of the study evaluative framework in presenting facts about the reviewed key mega universities, has enabled the study to test the sufficiency of the study evaluative framework in identifying the characteristics of quality implementation of DL. The characteristics of the five international mega universities and their approaches to implementing the criteria of quality DL (in the study framework) are presented below:

- **The Open University (OU)**

According to the OU (2013a), the Open University is the largest DL university in the UK. It attracts DL students from around the world who vary from higher education students, part time, retired to the employed who seek to improve their career skills. It has more than 300,000 DL students enrolled in its DL programmes, studying in 22 different DL schools that teach a variety of subjects ranging from postgraduate, undergraduate, research degrees and professional skills programmes.

Addressing aspects of quality ***institutional mission***, the OU (2013b) indicated that the main authority in the OU is represented by its council which governs all DL operations and guarantees consistency and cooperation between all its services. The OU council holds the main responsibility for setting the university agendas and has an executive authority. Its mission includes the provision of DL degrees that meet the community needs and the provision of consistent DL courses. The provision of full information about the provided DL courses, policies, the available technologies, requirements and expectations are at the forefront of the university agenda. Concerning the quality of the implemented ***technology***, the university is obliged to provide easy access to DL materials and guarantee high levels of synchronous communication with high accessibility and manageability through its used application and its high-capacity network infrastructure. The technical support at the university plays a key role in providing an adequate online environment as its DL recipients can contact the 24/7 technical support team using a variety of methods that include, but are not limited, to phone calls, online chat, email and remote access services.

With respect to aspects of quality ***instructional support***, OU (2013c) reported that the provided instructional support is described as of premium quality and one of the university's strong points as 250,000 of its learning materials were downloaded around the world. Keys to its success are the use of technology that meets the course needs and the application of OU institutional standards. Other features of quality instructional support have addressed aspects of quality ***faculty support,*** such as the university arrangements to actively engage faculty members in the development process of the DL learning materials, which include the provision of training and assistance for faculty members to carry on with their design missions. The qualifications of the DL faculty members are stressed by the university to be at the top levels and measures for improving and enhancing their skills included a commitment to the unceasing support for their engagements in any activities related to DL methods and their timely engagement with their students.

Another valuable feature of the OU was its quality ***student support***. It is one of the OU's pivotal points of attraction. According to the OU (2013d), the university is obliged to enable all DL students around the world to register fully online and to have smooth access to all the DL services that include the online testing services. Aspects of quality ***evaluation*** were present in the use of a variety of assessment methods that include oral examinations, computer designed projects and the use of external examining methods. These are deemed to be one of the university's innovations in the DL assessment methods.

Moreover, the OU puts students' feedback at the forefront of its evaluative approach to its whole system (i.e. policies and services) and the provided DL instruction and methods. Feedback from DL recipients plays a vital role in the university's future plans.

In summary, the OU experience in DL provides an important model as it represents one of the historically leading DL universities in the world. The examination of its DL programmes, through the study evaluative framework, has revealed adherence to most, if not all, high-quality DL features.

- **The University of Maryland – University College (UMUC)**

In the U.S. the University of Maryland is considered a mega university. The UMUC (2014a) reported that the university offers traditional and DL degrees and its students can join the university facilities in two states (Washington and Maryland) and worldwide Asian and European locations. The university attracts DL students from all around the world who vary from higher education students to part time and full time students. It has more than 60,000 DL students enrolled in its DL programmes studying 23 undergraduate subjects, 27 bachelors' degrees and 24 masters' degrees.

Addressing aspects of quality, ***institutional mission***, according to the UMUC (2014b) the university is led by the university advisory council which is deemed the centre for its regulations that receive feedback and advice from its three advisory teams: global staff, faculty and students' advisory council. The university is committed to providing an accredited and consistent form of education that guarantees the smooth transfer from its traditional delivery system to its distance delivery system. Its guarantee extends to the provision of DL courses that are equivalent to, in consistency and availability, its traditional delivery system and information that is up to date regarding the offered DL courses and degrees, requirements, policies, services and expectations.

Concerning aspects of quality in the ***technology*** dimension, UMUC (2014c) cited it was granted five online teaching and learning awards by the Solan consortium which addressed its excellence in its application of synchronous communications, faculty development, and three DL masters programmes. The university DL has used its locations with their excellent facilities around the world to provide high levels of synchronous communications to its students and guaranteed accessibility to its DL materials through its DL applications. Support for the DL technological needs at the university is provided through the faculty and the student support services. Faculty support services include support during, before and after online courses which include assistance and training for faculty members to develop DL methods and courses and students' support services which include around the clock phone calls and chat.

Touching on aspects of ***instructional*** and ***faculty members' support***, the UMUC (2014b) indicated that the university is committed through its instructional resources and faculty support divisions to provide a high quality teaching and learning experience. The faculty is provided with the needed support and resources to develop learning materials and the experience to meet the courses' needs which include financial aid, assistance and training. Aspects of quality ***student support***, on the other hand, go beyond only providing training and library services to the provision of a career advisory team that helps students to find the right courses and training for them to the extent of providing advice and keeping in touch with DL alumni. In achieving aspects of quality ***evaluation***, the UMUC evaluation scheme is highly dependent on the three advisory teams' feedback. Students' assessment is revised regularly by external bodies and the use of a variety of reliable assessment methods, that reflect the nature of each course, is the responsibility of the faculty members who are deemed by the university as the instructors and leaders of the instructional process. To conclude, the application of the criteria of quality DL, proposed by the study framework, was prevalent in most of the framework's six dimensions.

- **The Universitas Terbuka (UT) the Indonesia Open University**

An example of Asian mega universities is the Indonesia Open University; it attracts DL students from all around the world who are mainly working adults who seek to improve their career skills. The UT has more than half a million DL students enrolled in its DL programmes, who are studying for 24 bachelor degrees, four masters degrees and 2 certified programmes (UT, 2013a).

In achieving aspects of quality ***institutional mission***, the UT (2013b) indicated that the main authority in the UT is represented by its management board that governs all DL operations and guarantees consistency and cooperation between all of its services. Although its DL programmes adopt a mixture of the extended classroom and the autonomous learner modes (see Chapter II section 2.2) that rely on high student independence, due to the unavailability of an adequate technological infrastructure, the technology also plays an important part in delivering DL courses at a distance. To implement the quality aspects of ***technology***, the UT, in cooperation with other universities around the country and overseas, uses the technological facilities provided by those universities, to deliver online streaming of DL classes to its DL students. Accordingly, the university provides students with access to a variety of electronic reserves through cooperation with its many partner-universities. Technical support at the university is represented by the provision of tutorial assistance. This service is provided by the University Learning Programme Unit of the Distance Learning Open University.

Addressing aspects of quality ***evaluation***, the UT (2013c) reported that the evaluation and assessment schemes take the form of collaborative work between the UT and its partner-Partner-universities work as advisors to the UT management board in the assessment and evaluation process for the provided DL programmes by the UT. Students' assessments work in parallel to the traditional delivery system and DL students have to take the same TL final examination process with the differences being only in the time of completion universities and the credits assigned for each course.

To sum up, the UT experience has highlighted the use of different DL modes compared to the previously discussed two DL mega universities in its partnership with other regional universities as strategies towards implementing quality DL. It succeeded in achieving most of the proposed criteria (except quality aspects related to instructional, faculty and student support, given the different modes applied) of the study proposed evaluative framework.

- **The Indira Gandhi National Open University (IGNOU)**

Another example of a promising Asian mega university is Indira Gandhi National Open University in India. According to IGNOU (2014a) the university has more than 400,000 enrolled DL students from all around the world who can be part time, full time, those seeking degrees and employed people who are seeking to enhance their careers. The IGNOU has 20 different DL schools offering more than 383 programmes, ranging from undergraduate diplomas, masters, doctorates and certificate programmes.

Touching on quality aspects of the ***institutional mission***, the IGNOU (2014a) cited that the university authority represented by the board management is the centre for DL regulations at the university. It manages and coordinates the work of 43 regional network centres in six regions across India and governs 1,400 centres for different studies. Through cooperation with international DL organisations and association with many governmental institutions, the university was able to extend its student base to include overseas students from countries like: the United Arab Emirates, France, Mauritius, Kuwait, Qatar, Oman, Madagascar, Ethiopia, Liberia, Bahrain, Seychelles and Papua New Guinea. Accordingly, the university marketing plan is considered one of its strengths and its ability to attract students from around the world was manifested in its public information centre. This promotes the importance of DL and provides integrated information about the available DL programmes, expectations, requirements and policies.

Addressing quality aspects of ***technology*** in IGNOU, the technology used in the IGNOU has utilised the availability of many DL centres that work under the umbrella of the university to provide access to a variety of electronic reserves and accessible and manageable platforms for its DL recipients.

According to IGNOU (2014b), the university has a 24/7 technical support policy that utilises a designated central call centre that works in collaboration with six technical support centres disseminated throughout the country. It also runs an educational channel, "Gyan Darshan" that works 24 hours to deliver educational materials to its students around the world. The university utilises an electronic media production centre that is committed to provide DL material that uses the latest technological advancement to meet the courses' needs.

Concerning aspects of ***institutional*** and ***faculty support***, IGNOU (2014c) reported that The National Centre for Innovations in Distance Education backed by the Staff Training and Research Institute of Distance Education, is designed to provide training from faculty members to design DL courses, assessment and enhance their instructional methods. Aspects of quality ***student support*** are provided through the Student Service Centre that is committed to respond to students' inquiries and offer advice and consultants to DL students. Finally, aspects of quality ***evaluation*** for its DL programmes were present in the university agendas that indicated that future plans for the university are guided by the Inter University Consortium for Technology Enabled Flexible Education and Development Centre whose role goes beyond regular evaluation to encompass evaluation conducted by five parties backed by International Research Centres in the university.

In the light of this, the IGNOU approach, in implementing quality DL, was characterised by the application of most of the proposed quality criteria in the study framework. The utilisation of the previously highlighted strategy used by the TU - which advocated going into collaboration with other DL international and national universities - and the quality of its marketing plan were two main strategies identified in the IGNOU approach to implement quality DL.

- **The University of South Africa (UNISA)**

In Africa, according to UNISA (2014a), the University of South Africa is considered the largest DL university in Africa and one of the key leading DL mega universities globally. An interesting fact about UNISA is that it attracts a considerable number of students of 24 years old and younger. The UNISA estimates that it has more than 300,000 enrolled students in nine institutions and colleges. The majority of the university students are from African countries, but lately it has been able to attract students from Europe and the UK in particular. The university offers DL diplomas, honours degrees, undergraduate and postgraduate degrees.

Addressing aspects of quality ***institutional mission***, UNISA (2014b) reported that the university council has control over all the university's 37 DL services.

Its main role is to be the centre of all DL regulations and develop the university's strategic plans and to approve DL policies. The council is committed to coordinate and control cooperation between DL services to guarantee consistency of DL regulations and the adequacy of the provided DL educational services. The university focus, in providing high quality institutional mission, is manifested in its devotion to four main services, namely: the Academic Planner, the Community Engagement & Outreach, the Corporate Communication & Marketing and the Programme Accreditation & Registration to promote the university institutional mission. This made the university of UNISA tick all the boxes concerning the implementing a high quality institutional mission. The Academic Planner service is obliged to guarantee the availability and consistency of the DL scheduling plans for the degrees/programmes of all enrolled students. The Community Engagement & Outreach services are responsible for identifying the community needs and providing full information about the DL expectations, policies and requirements The Corporate Communication & Marketing and the Programme Accreditation & Registration services are committed to promoting the importance and recognition of DL in the job market and in the education community.

The quality aspects of the ***technology*** were reported in the UNISA (2014c), which has detailed many features of the UNISA technology, is seen by the university as one of its important features and it has devoted two services (the Planning and Coordination of Study Material and Study Material, Production & Delivery) to guarantee the high accessibility and manageability of the produced DL materials and the application of institutional high standards in the design process for these materials. Through the Information & Communications Technology service, the university is committed to provide support to all its recipients. Touching on aspects of ***instructional*** and ***faculty support***, the Tuition and Facilitation of Learning service is responsible for providing faculty members and students with training and support. This service is also committed to offering a variety of activities to DL recipients, related to DL methods of instruction and rules of student-faculty engagement in DL.

Many aspects of quality student support were present in UNISA provided ***students' support***. The UNISA (2014d) indicated that student support is provided through two services: the Student Admission and Registration Service and the Dean of Students. The first service's main role is to guarantee smooth fully online registration and to provide new DL student training and information that describe DL at the university.

The latter service is more concerned with the provision of services related to students' professional and career development.

In implementing quality aspects of the ***evaluation*** at the university, the evaluation in the UNISA is conducted by two services and focused on two aspects that reflected elements of the study framework, which are the evaluation scheme for DL programmes and DL student assessment. The Strategy, Planning and Quality Assurance service role is to conduct annual regular evaluation based on four benchmark accreditation bodies. The Student Assessment Administration, on the other hand, is committed to applying a variety of assessment methods, using the latest technology and knowledge to assess DL students' outcomes in a responsive manner that reflects the nature of DL.

In light of the review of five international mega DL universities, it can be concluded that the application of criteria of quality DL is a characteristic shared by all the reviewed examples of leading DL universities. Although the application of the quality DL criteria varies, based on the available technology and the funds available, universities have used different strategies to provide and maintain the quality of its DL. For example, a distinctive feature of mega universities in Asia and Africa are their tendency to go through a collaboration process with other universities/institutions to be able to utilise resources that are otherwise unobtainable. Moreover, it can be suggested that the use of the study framework to examine thematically and systematically the experience of these universities, was proved to be suitable as it sufficiently covered aspects of the implemented quality to reflect its validity in examining issues of DL quality. This proves the validity of the study evaluative framework as a tool for the investigation of the quality of the implemented DL in Saudi Arabia which also helps to achieve the study's fifth and sixth objectives (see chapter I).

3.3 DISTANCE LEARNING IN SAUDI ARABIA

This section is devoted to providing a clear picture of the current status of DL in Saudi Arabia. It starts with insights by contributors to the development of DL in the country, then moves to pinpoint the advantages of DL in general and in Saudi Arabia in particular. This is followed by a review of the characteristics and features of four examples of DL Saudi universities and a presentation of local studies that addressed the quality of DL in Saudi Arabia.

3.3.1 Contributors to the introduction of distance learning in Saudi Arabia

In order to provide a comprehensive and current picture of DL in Saudi Arabia, Saudi geographic, economic, and cultural positions must be explored in relation to DL.

Moreover, developments in the Saudi education system and the government's attempts to support education need to be reviewed to highlight milestones that led to the current Saudi DL system. Therefore, in this section, an historical review of the Saudi economic and educational factors is presented to highlight factors that led to the introduction of DL in the country.

I. Economic Factors

The Ministry of Commerce and Industry (MOCI, 2009) reported that, in the last 40 years, the Saudi economic situation has boomed, driven by the huge revenue produced by oil and petrochemical export trade deals in the international markets. Because the nation is the 14th largest country in the world by area, this revenue was exploited by the Saudi government to provide prosperity and sustainability to government services in many deprived regions in the country that were out of reach due to the vast distances involved. Accordingly, technological investments were prioritised by the Saudi government in order to use technological advancements for the benefit of the Saudi public. This led to a national plan to invest in huge technological projects that included, most importantly, a local Information Communication Technology (ICT) industry to pave the way for the establishment of e-government, e-commerce and e-learning projects, to be governed by the City of Information and Communications Technology in Riyadh. Accordingly, the services of three leading telecommunications providers were employed to allow the country to develop a promising technology in the Arab world. The Saudi educational system is expected to reap the benefit of such utilisation by exploiting the available technology in delivering education to the growing numbers of Saudi higher education students. This is discussed in the next section.

II. Educational factors

The Ministry of Education (MOE, 2010) reported that, in 1970, a new development plan (consecutive to the 1929 first plan) for education was introduced to emphasise the need for the deployment of technology in education; computer science was added to the existing curriculums to be taught in secondary schools. Moreover, in compliance with the Islamic concepts that were introduced in the first educational plan, the idea of providing education for all was amplified to echo the need for Saudi females to engage in an educational process that preserves their right of absolute chastity by utilising technological advancements that include web conferencing, thereby transmitting lectures that are conducted by male instructors to female classes.

It is worth mentioning that, due to cultural and religious beliefs, the provision of education for Saudi female students has started later compared to that provided to male students (in 1959, a difference of approximately 30 years). In the Saudi education system, female students are segregated from males in all aspects of the educational process, through all educational stages (preliminary, elementary, secondary and higher education). This has created pressure upon the Ministry of Education (MOE) to develop a separate scheme for female students to pursue their education through the establishment of the Girls' Educational Department that is now a part of the MOE, which is a theme adopted by the Ministry of Higher Education (MOE, 2010).

The Ministry of Higher Education (MOHE, 2009) reported that, to accommodate changes that were entailed by the introduction of the 1970 educational scheme, the Saudi government, represented by MOHE, began to face many challenges related to the unprecedented growth of secondary school graduates, both male and female, and the financial burden of founding free public universities in all regions of the country. In 1975, the Saudi government formed, the Ministry of Higher Education (MOHE) to be the centre of higher education legislation and to be responsible for educational affairs concerned with providing post-secondary education schemes. Since then, more than 30 free public universities and 220 community colleges, providing higher education for both sexes, have been founded. This shows that the country has taken major leaps in the educational sector in the past 3 decades alone. As challenges in the higher education sector persisted, the MOHE began to use the available government support to implement two approaches. The first was to send Saudi students abroad to international universities (Saudi Arabia ranked 4th in their number of students sent abroad). The second approach was to exploit the available technological advances to offer higher education for all.

With regard to the second approach, many steps were taken by the MOHE to pave the way for the introduction of a new educational delivery system, started by the establishment of the National Centre for E-learning and Distance Learning (NCEDL). According to the NCEDL (2011), their establishment in 2006 was a step forward towards a legislated and regulated DL system. Since then, Saudi universities have offered DL degrees that are certificated and have introduced regulations to support DL. Universities in the country are actively supported by the Saudi government and more than 11 billion Saudi riyals have been spent to back up the MOHE approach and enhance DL quality. Nevertheless, DL in the country is experiencing high dropout rates (Abdulaziz, 2008; Alkhattabi, 2014; Ibrahim, et al., 2007) and are perceived to be of poor quality (Al-Balawi, 2007; Algahtani, 2011; AlMegren and Yassin, 2013; Almohaisen, 2007; Mirza, 2006).

In conclusion, in light of the aforementioned factors about the development in the Saudi economic and educational system, a gap has become evident between the Saudi DL great potential and its underachievement in providing quality DL, which was identified in the NCEDL recommendations (NCEDL, 2011). This underpins the study's aim of building a strategic framework to provide the Saudi higher education administration with guidance to implement quality DL programmes that utilise the available resources.

3.3.2 Advantages of distance learning in general and in Saudi Arabia in particular

The application of DL has been proved to be advantageous by many studies. DL institution/universities around the world have reaped the benefits of the use of delivering courses to students at a distance. Delivering education to students at a distance has enabled DL institutions to expand their educational reach to more students and provide valid and up to date information for their students (Hofmann, 2002; Song et al., 2004). Moreover, the use of more visual aids and the technological advancement to create an interactive environment, in many cases, may exceed the interaction provided in the traditional face-to-face (Newton, Hase & Ellis, 2002; Ohara, 2004). More potential benefits to the DL providers and instructors are the ability to use text in a variety of platforms to deliver knowledge, notwithstanding the properties that the technology can offer in updating, editing the existing knowledge and the availability of prompt responses and communications between the learners and instructors (Ohara, 2004).

Advantages of DL surpass benefits to the DL providers to include many advantages to distance learners. Such advantages were cited by Ohara (2004) and Song et al. (2004) to include promoting learners' opportunities and the democratisation of education for those who were not able to continue their education due to issues related to cost, work, location or family circumstances. Other advantages to DL learners were its ability to stimulate their sense of engagement and build features for successful autonomous learning (Hill, 2002). In conjunction with this, DL students' sense of exploration and participation and, most importantly, their ability to practise control in real life situations and time management were distinctive features cited by Ohara (2004) as key benefits reported by DL learners.

With this in mind, the application of DL in Saudi Arabia has the potential to fulfil the demand of a parallel education delivery system that is advantageous. In Saudi Arabia the advantages of using DL learning could be a great advantage when taking into account many aspects concerning the Saudi context that the Saudi traditional face-to face education system has failed to fulfil.

Four main advantages of the use of DL in Saudi Arabia are presented below:

- **The large Saudi territory**

AlKhalifa (2010) pinpointed that the large Saudi territory and the existence of many cities and villages that do not have access to traditional universities, due to the long distances between them, made it difficult for students in those isolated areas to enrol in these universities as they either had to move from their cities or villages or bear the high cost and burden associated with travelling to attend classes. Such a burden can be eliminated by the availability of an educational system that can reach those underprivileged students in their home and enable them to continue their education.

- **The increasing numbers of Saudi students applying for higher education**

The exponentially increasing number of students applying for higher education in Saudi Arabia has put huge pressure on the Saudi Ministry of Higher Education. According to Elerini (2009), the number of secondary school graduates, who were unable to enrol in higher education, is quite shocking. In 2009 more than 400,000 students applied to enrol in higher education institutions and universities in the country, but only 50,000 students were accepted and were able to continue their education. In an attempt to alleviate the pressure, the Saudi government, represented by its King, has begun a plan for sending Saudi students abroad in an initiative called "King Abdullah's Foreign Scholarship Program". Although this solution has cost the Saudi government a huge amount of money, it stopped short of providing opportunities to the vast majority of the secondary school graduate students who were willing to engage in higher education. The utilisation of an educational system that offers those students the opportunity to join a higher education institution and continue their education, has become a necessity. The (ICT) industry in the country is considered a great contributor to the many advances in the country. It has been invested in many fields (see the section 3.3.1). The investment of the available technologies and the existing universities' knowledge in delivering education at a distance, could help relieve the financial burden associated with sending students abroad and help more students to have access to the higher education universities that are otherwise unobtainable.

- **The complete separation between genders in the Saudi educational system**

Given that the provision of education for female students was established 30 years later than that for male students, many conventional universities in Saudi Arabia are suffering from a shortage of female faculty members and instructors (Alaugab, 2007).

There are particular subjects in Saudi universities which are still facing a huge shortage of female faculty members and cannot fulfill the requirement of conventional face-to-face female classes that are taught by a female faculty member, given the complete separation of females/males (Reda and Hamdan, 2015). In this case, DL provides a great opportunity for the these universities to utilise the available technology to enable male faculty members to teach female students at a distance as DL classes do not require the same traditional classes (student and faculty members are in the same place and communicating face-to face). Through the use of DL features, communication between female students and male faculty members can be conducted and facilitated synchronously (in online streaming) and via texts and applications.

- **The Saudi government's huge financial investments in its educational system**

The recent government plans that advocated substantial spending in the educational field has offered universities in Saudi Arabia the opportunity to invest in improving their whole systems and, particularly, their technological infrastructure. According to MOHE (2013), about 25% of the 2013 Saudi budget was spent on the education sector and the higher education sector represented by the Saudi universities received more than 50% of the whole education budget. This budget was directed towards improving the education technologies and the universities' network infrastructures in order to respond to the technological advancement around the world. This is a great advantage to the Saudi universities to endorse the introduction of a DL system and use the available financial budget to build an efficient technological infrastructure and invest in developing methods of DL delivery to accommodate a high quality DL system.

In conclusion, DL has been proven advantageous to both DL institutions/universities and its main recipients. Its advantages go beyond providing opportunities to more students, who were otherwise not able to join higher education, to enhancing students' key learning skills. In Saudi Arabia DL is more advantageous as it has the potential to solve many problems related to student numbers, geographical location, gender and huge government expenditure. However, the low perceived quality of DL in the country (see section 3.3.4) has incapacitated the DL potential for solving the aforementioned problems, which underpins the importance of the development of a strategic approach to implement quality DL in the country (the study aim).

3.3.3 Distance learning experience in Saudi Arabia

Distance learning in Saudi Arabia is undergoing constant changes. Given the huge investment by the Saudi government in the development of an educational system that embraces the technological advancement, the Saudi universities have begun to compete in utilising their granted financial budget to exploit the available technological advances. According to MOHE (2014), Saudi universities' investments were directed towards the implementation of enhanced technical infrastructure and the use of technology in all aspects of their offered programmes, most importantly, the development of a DL system that is designed to attract students from outside the area of its conventional face-to-face programmes.

Since the introduction of the DL system in Saudi Arabia in 2002, many universities in Saudi Arabia have begun to use the system to deliver education to their students. Up until now, 11 universities in Saudi Arabia have been utilising the DL system and the number is still growing. However, most of their efforts were focused on using the DL system as a complementary system in the so called "Intesab" system- where students are receiving only the same traditional courses' content and have to attend for a final examination - to provide learning materials using the technological advances. The NCEDL (2013) has identified four Saudi universities that have an independent DL system and the ability to provide certified DL degrees and training courses. Thus, a review of these four Saudi DL universities' achievements and characteristics can provide a clear picture of the current DL situation in the country. Detailed descriptions of the characteristics and features of four Saudi DL universities are presented below:

- **King Abdul-Aziz University (KAU)**

According to a King Abdul-Aziz University report (KAU, 2014a), the first university that applied DL is King Abdul-Aziz University in Jeddah. KAU centre is the headquarters of DL in Saudi Arabia. Its main division of authority is represented by the Deanship of Distance Learning (DDL) which was established in 2004. Now, KAU has more than 1200 registered students in four colleges. The university grants DL bachelor degrees in eight subjects and postgraduate degrees in two other majors. The first DL students' group graduated in 2012 to mark the first DL students granted a degree through a complete DL delivery system in Saudi Arabia. The DDL in KAU represents the centre for DL regulation and the hub for the collaborative work of other DL services departments.

As reported in KAU (2014b), the university technological infrastructure is equipped to host more than 50,000 DL students and a designated technological department works under the umbrella of the DDL to recognise DL needs and supervise the design process of DL materials.

The technological department has developed many applications to facilitate the DL process. Two DL applications were patented by the technology department at KAU to deliver DL classes and materials. The first application is called "CENTRA" and delivers DL synchronous/virtual classes that have many features, including live assessment, chat, and applications and photos exchange. The other application developed by the technological department at KAU, and called "EMES" as an abbreviation for the Electronic Management Education System, is used to provide access to DL learning materials, communication between student and faculty members, quizzes, assignments and grading. Technical support for DL recipients at KAU is provided by the University Technical Support Centre. Another initiative introduced by KAU is the use of mobile learning where students can attend online streaming, log in to their accounts and have access to their course materials though their mobile devices.

According to KAU (2014c) the DDL at KAU has two educational affairs departments (male and female educational departments) which are committed to identifying educational needs for faculty members and students and ensuring the equivalency of content and outcome of DL to TL which are conducted through cooperation with the related university colleges. Those departments also communicate the training needed for faculty members and students to the technological department to initiate training programmes based on coordinated efforts with DL connected colleges. Students' services and support are part of the educational affairs department's responsibilities. The department is committed to respond to DL students' needs and facilitate their registration process through its collaborative work with the university students' service.

Support for faculty members is also deemed part of the educational affairs department mission. The evaluation for the DL programme at the university is performed by the DL development department in the DDL, which is responsible for setting out an evaluation scheme for the current implementation of DL and for future needs.

- **Imam Muhammad ibn Saud Islamic University (IMSIU)**

Imam Muhammad ibn Saud Islamic University is located in the capital, Riyadh. Similar to KAU, the Deanship of Distance Learning in the IMSIU represents the centre for DL regulations and its main role is to organise operations and services conducted by DL concerned departments (IMSIU, 2013a). The DDL at IMSIU was established in 2007 and has an estimated 1000 DL bachelor's degree students studying in 10 different majors. In a leading initiative in the country, IMSIU runs its own TV channel on satellite and the internet to stream its DL learning materials. The DDL at IMSIU has 13 units of work under its umbrella (IMSIU, 2013a).

According to IMSIU (2013b) the e-learning unit and the Information Technology unit are responsible for providing accessibility to DL materials. DL courses are delivered through a Blackboard collaboration system. The university technical support is provided through a notification system and call centre during work hours. The technical support takes two different forms: staff notifications and inquiries and a student inquiry system. The Academic Affairs unit is responsible for providing academic and training support for students and the Training and Development unit is designed to provide support for faculty members and staff regarding teaching aspects of DL. Students' registration and course scheduling schemes and assessments are controlled by the unit of Vice Deanship for Admission and Registration and Student affairs. Evaluation of the DL programme policies, instructional methods and technology are conducted by the Dean for Graduate Studies and Quality unit. Through a collaborative work led by the DDL, the other seven units are concerned with the financial and administrative affairs and public relations.

- **King Saud University (KSU)**

King Saud University in the capital, Riyadh, has made its mark by disseminating DL training courses to a great number of its consumers in Saudi Arabia. KSU (2013a) cited that, although KSU is not considered one of the universities that deliver certificated DL degrees, its outreach and efforts in delivering DL training courses to more than 60,000 students enrolling in more than 6000 training courses, make it one of the leading examples of the Saudi DL universities.

The Deanship of Distance learning (DDL) at KSU was established in 2008 to lead the university's three other vice deanships in setting out the DL strategic scheme and organising DL operations in the university. The university Vice Deanship of Academic Affairs (VDAA) is the core deanship that controls most of the DL operations and processes. The VDAA is committed to providing accessibility to DL learning materials, activities and support for faculty members and students. Through cooperation with the Vice Deanship of Technical Affairs, the VDAA works in enhancing the available technical infrastructure to accommodate the offered DL courses.

As reported in KSU (2013b), the university uses the Blackboard system to deliver its courses and the technical support is provided through the Service Management System and the unified call number which is operated by the VDAA. Through collaboration with the Vice Deanship of Quality and Development, the VDAA develop DL courses, related assessment methods for DL students and provide support training regarding the technological aspects of DL.

The Vice Deanship of Quality and Development, on the other hand, is responsible for the evaluation and the future development of the offered courses which include, but are not limited to, the quality of the courses' instructional support, policies, technology and support for students and faculty.

- **The Saudi Electronic University (SEU)**

A recently established university in Saudi Arabia, that is designated to provide only DL certified degrees and training courses, is the Saudi Electronic University. SEU (2014a) reported that the SEU was recently established at the end of 2011 in the capital, Riyadh, and has started by enrolling 7000 DL bachelor's degree students in four DL colleges and 100 DL master's degree students in Business Administration. The university is still developing and is expected to be the leading DL university in the Middle East and Arab countries. Its strategic plan estimates that, in the next four years, it will open nine branches with DL centres and have more than 100,000 registered DL students.

According to SEU (2014b), the university has a promising technological infrastructure that utilises the services of the "MOBILY" telecommunication company (one of the two largest telecommunication companies in Saudi Arabia) to provide accessibility to its DL delivery system, which takes advantage of the "Malaga-1" system (a data backup system that is considered very sophisticated). It has an internet speed of 150 Mega Bytes/second and 400 beelines with the Saudi Telecommunication Company (STC). The university technological infrastructure demonstrates a unique initiative of investment in the DL technological infrastructure in the country and in the Middle East.

The technical support at SEU is planned to utilise eight forms that vary from live chat, email to a 24/7 call centre. A DL student at the university is expected to reap the benefit of the use of three DL applications/systems: the "Blackboard" system to provide access to DL learning materials and the required communication in the teaching and learning process, the "Banner" system to facilitate course scheduling for DL enrolled students and the "BrightWare" system for providing smoothly a full online registration procedure for DL students.

The university has a different structural authority compared to all the previous reviewed universities. SEU (2014c) indicated that the university has its independent authority represented in its rector followed by four vice deans and the female colleges' supervisor. The university has seven deanships and 10 administrative divisions that work under the university authority to provide support for the faculty members, students and the instructional processes.

All matters concerning DL programmes offered by the university are reviewed and evaluated by the Vice Deanship of Planning, Development and Quality which is responsible for the preparation of future strategic plans and developments at the university.

In light of the features of the reviewed four Saudi DL universities, it can be concluded that the reviewed DL universities in the country show similarities in their characteristics regarding their structure of authority and their approach to providing DL services to their consumers. Although the SEU showed a more sophisticated structural authority and technological infrastructure, it is still undergoing development and features of its authority and services structure are not clearly defined. Thus, it can be suggested that investigating the quality of the implemented DL in one of the aforementioned universities can reveal a valid status of the current quality of DL programmes in the country, given that they are all working under the umbrella of the Ministry of Higher Education and that their funds, regulations and policies are controlled by it. Accordingly, evaluating the current quality in KAU (the case studied university) can reveal a valid status of the current quality of DL in the country and the development of strategic approaches to implement quality DL in KAU (the study aim) provides a transferrable strategic approach that could be adopted by other universities in the country.

3.3.4 Distance learning quality in Saudi Arabia (review of local studies)

The quality of the offered DL programmes has captured the interest of DL institutions around the world in a step to guarantee the effectiveness of the provided DL and its ability to meet its desired goals. Since the early introduction of DL, many accreditation bodies have begun to conduct multiple studies to identify quality criteria by which the quality of the provided DL can be assessed and many DL institutions have used those criteria to evaluate and obtain accreditation of their programmes (IADL, 2013).

According to El-Maghraby (2011), the notion of quality assurance in Saudi Arabia began in the late 80s and the Saudi government has exerted pressure to ensure the quality of its higher education programmes. The first initiative in the field of quality assurance was introduced by three universities: King Abdu-aziz University (KAU), King Fahad University for Mineral and Petroleum (KFUMP) and King Saud University (KSU). In recognition of the need for quality standards to be applied to the offered programmes in Saudi universities, the Saudi government established the National Commission for Academic Accreditation and Assessment (NCAAA) in 2004. Based on a combination of global and local standards, a framework has been developed to assess the quality of the higher education programmes in the country.

El-Maghraby, (2011) continued to report that this framework is undergoing a constant development and training for conducting such assessment was provided to the personnel responsible by the United Nations Education, Scientific and Cultural Organisation (UNISCO) and the British Council "Excellence in higher education" programme. Based on the NCAAA recommendations, Saudi Universities have begun to invest in the establishment of quality assurance centres that are concerned with ensuring the quality of the provided education services. Individually, Saudi universities, represented by its quality centres, have begun to evaluate their higher education programmes independently and develop internal criteria. DL, as a part of the Saudi universities' higher education programme, has not received much attention as the universities' focus has been on the quality of their conventional face-to-face educational system.

In a move towards improving the quality of DL, the Saudi government founded the National Centre for e-learning and Distance Learning (NCEDL) in 2006 to encourage Saudi universities and researchers in the field to put more effort into enhancing the quality of the current DL learning (NCEDL, 2013). Alzalabani and Nair (2014) pointed out that the assurance of the DL quality in Saudi Arabia is still an ongoing process that is marked by individual universities' efforts based on self-reporting. They continue to point out that the lack of research which addresses quality assurance in DL on the national level is a basis for concern and put forward the late introduction of the concept of quality assurance in Saudi higher education (established in 2004) and particularly in DL (started in 2006) as a reason. However, many local studies have touched on aspects of DL quality. Thus a review of these studies provides a window to the perceived quality of the currently offered DL programmes in Saudi Arabia from many perspectives. The reviewed studies are presented below from the perspective of the study's six main dimensions (See Chapter II; The Study Framework).

I. Institutional mission dimension

Addressing aspects of the institutional mission dimension, Sahab (2005), in his study, investigated factors that affect the implementation of a successful institutional mission and the methods adapted by the DDL at King Abdul-Aziz University to respond to DL needs. The study concluded that the implementation of a quality DL programme faces many challenges concerning the quality of the provided accessibility to synchronous communication, support for faculty and students and the cost of the programme's foundation. Challenges were ascribed to the infancy of the implemented programme in the university and the newly introduced teaching and learning technological method.

Related to this, Al-Draiby et al. (2010) addressed issues of promoting the quality of the university policies and regulations as a project at the Faculty of Communication and Information Technology in a leading Saudi university. The study concluded that the current DL policies and rules are a major challenge to the process of developing quality DL, due to the complexity of the rules in the upper levels of administration. In the same vein, Al-Shehri (2010) conducted a qualitative study to investigate the role of coordination and collaboration between DL institutions at the national level in promoting the quality of the provided DL. The study highlighted the lack of coordination between DL universities in the country and pinpointed a link between the MOHE policies and the lack of DL universities' coordination and cooperation on many levels. In conjunction with this, promoting DL public awareness and the importance in the university marketing plan was one of the core solutions proposed by Mirza and Al-Abdulkareem (2011) to help eliminate the perceived low quality of DL caused by its late introduction by the Saudi government.

II. Technology dimension

Touching on aspects of the technological dimension, the study by Al-Wehaibi et al. (2008) investigated the quality of the technology provided in different Saudi universities from the perspective of faculty members. The study found that the quality of the provided technology to faculty members is not satisfactory. The study listed reasons behind its findings that included issues related to connectivity to DL classes, privacy and lack of control. This was backed by Bates' (2009) article that addressed the technological infrastructure in Saudi Arabia. He pointed out that, although the country has a promising technological structure, methods implemented by DL universities in utilising the available technological infrastructure is still behind global standards. Bates argued that technological departments in DL universities in Saudi Arabia should learn from the global experience how to provide more accessibility and connectivity to their consumers.

In the same vein, AlMegren and Yassin (2013) highlighted the provision of adequate training and support for DL learners and instructors, regarding the technological aspects of DL, as an important factor that promotes the utilisation of the available technology. Additionally, Al-Asmari, and Rabb (2014), in their study, suggested that more investment should be directed to the provision of support for the operation and the design of the implementation process of quality DL that uses the available technological infrastructure and telecommunication advances in the country for delivering DL classes to Saudi students. Related to this, Al-Asmari (2005) revealed that the low perceived quality of the provided technology in DL is influenced by the inadequate utilisation of the available technology for educational purposes, most importantly in DL, where it plays a key role.

III. Faculty support dimension

Concerning aspects of faculty support, Albalawi and Badawi (2008) addressed DL acceptance from the faculty members' perspective. They surveyed 183 faculty members who work in the DL field. Findings indicated that the low acceptance is correlated to the low perceived quality of faculty support training and reward. Al-Jarf (2007) also associated issues of lack of motivation and rewards for faculty members to the low perceived quality of faculty members' support in DL. Additionally, the Al-Busaidi and Al-Shihi (2010) study on faculty members' acceptance of the DL management systems in Saudi Arabia has concluded that promoting the quality of the provided support for faculty members is required for the implementation of quality DL in the country. In conjunction with this, Al-Alwani (2005) has listed the lack of available technical support and training for faculty members as undermining factors to the quality of the implemented DL.

IV. Instructional support dimension

Aspects of instructional support were addressed by the Al-Asmari (2005) study that investigated the use of DL amongst faculty members. He concluded that the perceived low quality of the training and activities related to DL instructional methods have a negative impact on their attitudes towards DL. Moreover, Al-Jarf (2007) addressed instructional support from the administrators' perspective and found that the lack of funds for DL instructional purposes and its related rewards and motivation, play an important role in demoting the perceived quality of the instructional support provided. Al-Kahtani (2006), in his study that investigated the quality instructional support provided from the perspective of faculty members, indicated that more effort should be put into the development of instructional support that takes into account the technological aspects of DL. Alnujaidi's (2008) study investigated faculty members' attitudes towards the provided DL instructional support in 20 higher institutions in Saudi Arabia. He indicated that the quality of the provided instructional support is deemed by faculty members as below the adequate level.

V. Students' support dimension

On the issue of students' support dimension, Algahtani (2011) investigated aspects of both student support and evaluation from the perspective of DL male students in two Saudi universities. The study findings indicated that the provided DL services and support for DL students are perceived as low quality. In the same vein, but focused on gender differences in the provided support, Bates (2009) and AlMegren and Yassin (2013) indicated the low quality training and support provided for DL female students compared to their male counterparts which was ascribed by both authors to the cultural norms of restricted access to male dominated authorities and the considered low importance of female education.

Mirza (2006) and Alaugab (2007) see DL as a promising system of education for female students in particular, if its ability to reach female students is promoted through the provision of high quality student support and this finding was also supported by AlMegren and Yassin (2013). The study by Al-Balawi (2007) found that 71% of the male faculty members in the study sample were interested in being involved with instructing students at a distance, but only 29% of the female faculty members were interested.

VI. Evaluation dimension

Algahtani (2011) and Alzalabani and Nair (2014) addressed aspects of evaluation related to student assessment and DL programmes' strategic plans. The study by Algahtani (2011) investigated aspects of both student support and evaluation from the perspective of DL male students in two DL Saudi universities. The study findings indicated that, although students have recognised the advantage of receiving education at a distance, their views on the quality of the provided support and assessment of DL outcomes was negative. Alzalabani and Nair (2014) studied aspects of evaluating the overall strategic plans of DL programmes and revealed that DL university authorities, represented by their central administrative authorities, lack sufficient experience and the prerequisite skills to assess their offered programmes, which resulted in insufficient procedures and arrangements that undermined the quality of the provided DL services.

In light of the review of local studies that addressed issues of DL quality in Saudi Arabia, it can be concluded that, although the reviewed studies focused on specific aspects of DL quality, they all agreed on the low level of the quality of the addressed aspects (see table 3.1).

Table 3.1: The reviewed local studies the addressed DL quality in Saudi Arabia

Aspects addressed by local studies	Local studies indicated the low level quality provided
Aspects of administration/ institutional mission	(Sahab,2005; Al-Draiby et al.,2010; Al-Shehri, 2010; Mirza and Al-Abdulkareem, 2011)
Aspects of technology	(Al-Asmari, 2005; Al-Wehaibi, et al., 2008; Bates, 2009 AlMegren and Yassin, 2013; Al-Asmari, and Rabb, 2014);
Aspects of instructional support	(Al-Asmari, 2005; Al-Kahtani, 2006; Al-Jarf, 2007; Alnujaidi, 2008)
Aspects of faculty support	(Al-Alwani, 2005; Al-Jarf, 2007; Albalawi and Badawi, 2008; Al-Busaidi and Al-Shihi, 2010)
Aspects of student support	(Mirza, 2006; Al-Balawi, 2007; Alaugab, 2007; Bates, 2009; Algahtani, 2011 AlMegren and Yassin, 2013).
Aspects of evaluation	(Algahtani, 2011; Alzalabani and Nair (2014))

While some studies have addressed those aspects from the administrators' perspective and others from the faculty members' or the students' perspective, no study has provided a comprehensive evaluation of the elements of DL quality in the Saudi DL University. This echoes Alzalabani and Nair's (2014) findings that there is a lack of local studies that address comprehensively the quality of the DL programmes in Saudi Arabia. Accordingly, the need for studies that provide a comprehensive evaluation as to the quality of the offered DL programmes from the perspective of all DL stakeholders in the country, is evident. Given the gap between the huge resources invested by the Saudi government (see section 3.3.2) and the low quality of the offered DL in the Saudi universities, this study attempts to provide a comprehensive evaluation based on its evaluative framework from the perspective of the administrators, faculty members and students. Moreover, it goes a step ahead and provides a strategic approach to implement quality DL in the country, which offers a significant contribution to the body of research in the country.

3.4 INTERNATIONAL AND LOCAL BARRIERS TO DISTANCE LEARNING

In this technological era, the potential of DL was promoted by the ever growing technological advances. An entrenched notion that is cited by many researchers was first pointed out by Russell (1999) who stressed that there is much evidence to suggest that no significant differences are expected between the effectiveness of a well-designed DL programme and TL, suggesting that well-designed DL can eliminate barriers that hinder its effectiveness. Close scrutiny of these barriers will help to overcome problems that influence negatively the performance of the students, faculty members and DL institutions represented by their administrative staff (Harris and Gibson, 2006). In this section, barriers that face DL are explored from three perspectives; that of the students, the faculty members and the administrators who are the three main stakeholders in any educational system (Collins, 2013; Muniandy and Veloo, 2011; Robertson, 2008).

I. Barriers to distance learning students

Students are the consumers of DL and are therefore at the forefront of any effort to determine obstacles to the successful implementation of quality DL. Distance learning students' insecurities are considered a major barrier compared to traditional learning students (Croft, Dalton, and Grant, 2011). The financial cost that is entailed by the technological requirements of DL delivery, the perceived low importance of their studies, the insufficiency of DL scheduling plans and the low variety of the provided programmes/degrees all contribute to DL students' insecurity (Croft, Dalton and Grant, 2011; Parsons et al., 2008).

In line with this, local studies have indicated the negative influence of the aforementioned factors on the Saudi students' attitudes towards DL (Algahtani, 2011; AlMegren and Yassin, 2013; Mirza 2006).

Aismontas (2014) placed more emphasis on the importance of student support in DL and deemed it the vital factor for the success of the DL delivery system. He added that DL students' feelings of isolation can be alleviated or intensified by the level of support provided. In the same vein, the lack of communication options, lack of feedback from faculty members and the limited assessment methods used in DL were cited by Lin, Lin, and Laffey (2008) as major reasons for DL students dropping out, high levels of frustration and feelings of alienation. Such findings were supported locally by Alaugab, (2007) and Alhazzani, (2014) who suggested an association between the inadequate communication between DL students and instructors and feelings of alienation amongst DL Saudi students.

Many studies indicated that students' inability to interact with other students (networking) and their inability to access on-ground services at the university leads to insecurity and lack of confidence among DL students (Jun, 2005; Lin, Lin and Laffey, 2008). In accordance with these studies, Alaugab (2007) and AlMegren and Yassin, (2013) have ascribed the Saudi students reported feelings of isolation and low importance to the inadequacy of the provided access to services provided to their counterpart TL students. In addition, the students' inadequate knowledge of DL requirements and prerequisites manifested itself as a barrier to DL as these factors contribute to DL students' tendency to drop out (Chyung and Vachon, 2005; Jun, 2005). This was also supported by findings of local studies that indicated the negative impact of the lack of information provided to DL Saudi students on their attrition rate (Abdulaziz, 2008; Alkhattabi, 2014).

Related to this, issues concerning future career development and the value of the obtained DL degrees are contributors to students' perceived low importance of, and confidence in, DL methods of delivery (Mayfield-Johnson et al., 2014). The undervalued DL degrees compared to TL degrees were indicated locally by Algahtani, (2011) and Ibrahim, Rwegasira and Taher (2007) and contributed to the Saudi students' negative attitudes towards DL programmes. Moreover, the lack of computer skills and acquaintance with technological environments has been cited by Aismontas (2014) and Bates and Khasawneh (2007) as a barrier that is amplified by the lack of training concerning technical aspects of DL. Locally, the inadequacy of the provided training to DL students in Saudi was indicated by Algahtani (2011) to increase the DL students' feelings of isolation and low confidence.

II. Barriers to distance learning faculty members

Many barriers concerning DL faculty members have been reported by several studies that have identified factors that negatively affect their teaching using technology and consequently the effective delivery of the DL courses. Gannon et al. (2009) pointed out that the lack of training and support regarding course development and technical aspects of DL are correlated to the faculty members' frustration and the consequent negative attitudes towards DL. In the same vein, in Saudi Arabia, studies by Albalawi and Badawi (2008) and Al-Busaidi and Al-Shihi (2010) have indicated the negative effect of the lack of training on Saudi DL faculty members' performance.

Moreover, the lack of time and training provided for faculty members to engage in the development process of the DL courses were cited by Gannon et al. (2009) as factors that inhibit faculty members' willingness to participate in DL. Such factors were reported locally by Al-Balawi (2007) to deter faculty members from becoming involved in DL in the country. In conjunction with this, Tabata and Johnsrud (2008) suggested another two disincentives for faculty members: the perceived low importance of DL, together with a fear of replacement by technology. Additionally, faculty members' perceive DL as being less rewarding, less prestigious, leading to loss of control and unsuitable for all courses. These perceptions were reported by Ocak, (2011) and Wang et al., (2013) as having a negative influence on faculty members' attitudes. In accordance with the previous study, the perceived less prestigious and less rewarding DL was locally reported by Al-Jarf (2007) and Al-Busaidi and Al-Shihi (2010) as discouraging Saudi faculty members from enrolling in the DL system.

III. Barriers to distance learning administrators

The administrative role in the DL institution is part and parcel of the institution's ability to overcome the many barriers that face DL faculty members and students. The challenges that hinder the administrative team's ability to implement a successful DL, therefore, must be reviewed. A major barrier that faces administrators is a lack of funds; Savage (2013) suggested that, with inadequate funds, the administrators' ability to manage an independent educational system that has a significant educational contribution, is unobtainable. Such a barrier was indicated by Al-Jarf (2007) and Sahab (2005) as a barrier that faces the implementation of quality DL in Saudi Arabia.

Barriers to administrators that are related to technological aspects of DL are self-evident. McFarlane (2011) and Savage (2013) indicated that the provision of adequate technology and its related support is one of the greatest challenges that face administrators in the DL institution.

According to Savage (2013), barriers arising from inefficient planning for financing the technological requirements and support are the predominant challenges to a successful administrator's mission. These challenges include insufficient consideration of the costs of installing, using and upgrading the technology in use and, most importantly, the provision of adequate trained human resources to support the DL system, which was reported in many local studies like Al-Jarf (2007), Al-Shehri (2010) and Sahab (2005).

Hashim, et al. (2015) suggested that other barriers that face DL administrators are related to the unavailability of an adequate telecommunication system which they described as a situation which persists in developing countries and entails innovative planning when designing and delivering DL. Related to the aforementioned issue, however, providing high level communication systems that include synchronous communication and video conferencing was a factor indicated by McFarlane (2011) as a challenge to DL organisations. He continued to explain that such a provision necessitates adequate funds, efficient technological infrastructure, appropriate physical settings and adequate planning schemes that many DL organisations struggle to offer. In conjunction with this, the lack of government support constitutes a major barrier that has many implications for providing a productive DL environment (Roby et al., 2013). They indicated that government support includes government regulations, educational plans and financial support. The inadequacy of the government regulations was indicated locally by Al-Shehri (2010) and Mirza and Al-Abdulkareem (2011) to hinder Saudi DL universities' plans in providing a DL system that is equivalent to TL in sustainability and value. According to Moore and Kearsley (2012), many barriers to the DL institutions' sustainability can stem from the inadequacy of plans that take account of the production facilities and personnel, the cost of purchasing or developing DL learning material and assessment tools and inadequate research-based planning, which are all challenges to the administrators in DL.

To conclude, barriers to DL intersect in many ways and, in some cases, they are also influenced by organisational barriers. Accordingly, the organisation's ability to employ adequate arrangements to alleviate or eliminate barriers that face students and faculty members is key to implementing quality DL. This observation reflects the study aim of providing a strategic approach for the universities in Saudi Arabia as organisations to overcome these barriers and alleviate their impact, informed by a variety of theoretical and practical recommendations from the literature and practice.

3.5 SUMMARY AND CONCLUSION

Through exploring the current status of international approaches by leading DL universities to implement quality DL learning programmes, it can be suggested that a characteristic shared by all the reviewed examples of leading DL universities is the application of criteria of quality. Despite variation in the application of DL criteria which can be ascribed to the available technology and funds, the reviewed universities have applied different strategies to sustain a high level of DL quality. In conjunction with this, the study thematic approach to examine the implemented quality in the reviewed DL universities, through the use of the study evaluative framework, has shown sufficient criteria to conduct such an examination as it has covered sufficiently all aspects of the implemented quality.

The conducted review of the Saudi educational system has revealed that the country has great potential for developing a leading DL experience in the Middle East and has pinpointed a gap between the available resources and the current low quality of the provided DL in the country. Such a gap was underpinned by the great advantages that quality DL can offer in solving many issues related to student numbers, geographical location, gender and the financial burden on the Saudi government. In conjunction with this, the chapter's review of the characteristics of the four Saudi DL universities has pinpointed symmetry in characteristics and approaches in providing DL in the country. This reflected the status of the Saudi universities that work under the same umbrella and are funded and regulated by the same rules and policies of the Ministry of Higher Education. This finding supported the study argument that investigating the quality of the implemented DL in one of the Saudi DL universities can reflect a valid status of the current quality of DL programmes in the country. This extends to validate the transferability of the proposed study strategic approach to implementing quality DL in the country.

The review of the literature pertinent to DL barriers indicated that the inadequate quality of the offered DL programmes can create many barriers that influence negatively the attitudes of DL stakeholders (administrators, faculty members and students) towards DL. Moreover, the review highlighted the fact that barriers to DL intersect in many ways and organisational barriers have the biggest negative impact compared to the other barriers related to the other DL stakeholders. This has pinpointed the importance of a strategic approach that targets the organisation as a whole to alleviate or eliminate barriers that affect students and faculty members, which reflects the study aim.

To conclude, this chapter has contributed to the achievement of the third objective by exploring the current status of approaches to implement quality DL generally and in Saudi Arabia in particular, to gain insights into the strengths, weaknesses and barriers to the implementation of quality DL. The next chapter is designed to define the study philosophical position and methodological approach in achieving the next three objectives (see Chapter I: The Research Aim and Objectives).

CHAPTER IV

RESEARCH METHODOLOGY

4.1 INTRODUCTION

Saunders, Lewis and Thornhill (2009) suggest that the researcher's view and philosophical stance has its impact on the study data collection techniques and analysis procedures and it is necessary for the researcher to demonstrate the underpinning paradigm that has led the study investigation. Amongst many research designs (Crotty, 1998; Kagioglou et al., 1999; Creswell, 2003) the "Research Onion" design that was developed by Saunders, Lewis and Thornhill (2009) is utilised to position this research in light of the research onion's six layers, as it offered a comprehensive and systematic approach of presenting the study's methodological approach.

By using the "Research Onion" to present the study's methodological approach, the bases on which it is built are clearly and systematically defined. In doing so, this chapter starts from the broader (outer) categories (philosophy, approach and strategy) that influence the more specific choices of the study (choices, techniques and procedures). This chapter therefore consists of six sections; each section is focused on one layer, starting from the outer layers, in order to pinpoint the stance of this research with reference to the zone of the layer. This is followed by two sections concerning the used triangulations and conclusion. The selection of valid methodology to evaluate the quality of the implemented DL in a Saudi context is the objective that this chapter has strived to achieve.

4.2 RESEARCH PHILOSOPHY

According to Johnson and Clark (2006), research philosophy relates to the nature of the knowledge and the way it can be developed; it has its impacts on the way the researcher views the world and, thus, underpins the researcher's choice of strategy and methods of data collection. Accordingly, it is important to define the research philosophical stance in order to use it in the way that enables the researcher to defend his choices against the alternatives.

Saunders, Lewis and Thornhill (2009) suggest that defining the researcher's philosophical stance, his views of the acceptable knowledge (epistemology), the nature of reality (ontology) and value (axiology), will be revealed to offer a clear understanding of the research position and choice of data collection and procedures.

It is worthwhile to consider snapshots of the predominant four research philosophical stances in order to define the position of this research. The four predominant philosophical stances suggested by Saunders, Lewis and Thornhill (2009) are discussed in this section in light of their definition of acceptable knowledge (epistemology), ontology, axiology, and tendency of its researchers towards the selection of data collection choices and analyses. This section concludes with defining the study's philosophical position.

- **Positivism**

Remenyi et al. (1998, p. 32) define positivism as "...the process of developing knowledge from an observable social reality to produce generalizable knowledge". They continue to explain that the researcher who works within this paradigm tends to be entirely independent and external to the subjects of the research, which entails a value-free axiological stance. According to Gill and Johnson (2002), this philosophy adopts the objectivism ontological position where reality of the social entities is independent of social actors and is more likely to involve large samples and highly structured methodology. It advocates the use of existing theory to develop testable hypotheses that lead to quantifiable observations to be statistically analysed which reflect the use of a quantitative choice/approach.

- **Realism (Direct and Critical)**

The other philosophical stance is referred to by Saunders, Lewis and Thornhill (2009) as realism, where the truth can only be determined by its sensational reflection. They suggest that two branches of this philosophical stance are clearly distinguishable: direct realism and critical realism.

They explained that direct realism is more or less likely to be categorised within the positivism stance as most of its characteristics comply with the positivists' theme.

Critical realism, on the other hand, promotes realism to encompass a wider view of the phenomena under investigation. According to Bhaskar (1989), critical realism values the mental process in which the truth can be instantiated. He argued that the researcher who works within this philosophy ought to understand the underlying social structure of the phenomena in order to understand the true picture. In agreement with Bhaskar (1989), Dobson (2002) suggested that parts of the phenomena that cannot be conveyed through the senses must undergo social conditioning by which reality can be interpreted. He continued to suggest that, although this philosophy seems to adopt the objectivism ontological position, it offers leeway for the researcher to understand the investigated phenomena through the different interpretations of the social actors involved (subjectivism ontology).

In defining the researcher's axiological position in the critical realism philosophy, Saunders, Lewis and Thornhill (2009) suggested that the researcher's axiological stance tends to be influenced by the social actor's views and experience and can by no means be value-free. They continued to suggest that critical realists should focus on building a methodology that is more concerned with the inclusion of different levels of individuals in an organisation to best understand the phenomena through a multi-level view using a mixed method choices/approaches (qualitative and quantitative). Such an assumption was supported by Zachariadis, Scott and Barrett (2010) who argued that the use of a mixed method choice/approach in a single research corresponds to the critical realists' philosophical position that pinpointed the limitation of the method choices/approaches adopted by positivists or interpretivists.

- **Interpretivism**

According to Saunders, Lewis and Thornhill (2009), the interpretivist's philosophical stance reflects an entirely different, or rather an opposite, position to the positivists' epistemological stance. They argued that development of knowledge from the interpretivists' view can only be obtained by understanding differences between humans as social actors through their different points of view of their world. This disputes the positivists' position that the researcher can investigate phenomena independent of the subjects of the research (objectivism ontology) and conduct research in a value-free way. According to Saunders, Lewis and Thornhill (2009), the interpretivist's philosophical stance highly values the researcher's empathetic stance that enables him to enter the social world of the research participants and to understand the meanings that individuals attach to the phenomena under investigation (subjectivism ontology).

This entails a value-laden axiological stance as an interpretivist philosophy encourages the researcher to immerse himself in what is being researched where the researcher's values and interpretation cannot be detached from the research. Saunders, Lewis and Thornhill (2009) suggested that researchers who work with this philosophy tend to use qualitative choices/approaches to understand the phenomena under scrutiny from the lenses of the research participants.

- **Pragmatism**

Although the previous three philosophical positions reflected Guba and Lincoln's (1994) argument that the research question/s and methods of enquiry are influenced by the researcher's philosophical position and its associated ontological and axiological stances, the pragmatists' philosophical position, according to Saunders, Lewis and Thornhill (2009), takes a different direction. They suggest that researchers who adopt pragmatic philosophical position are more concerned with answering the research question which influences their adoption of any philosophical position. This is to say that pragmatists tend to use a variation of epistemological, ontological and axiological stances in order to answer their research question which entails the use of different choices/approaches (qualitative, quantitative or mixed) based on the research question.

With the aforementioned four philosophical stances in mind, this study reflects the characteristics of the critical realists' philosophical position in investigating the research topic. According to the research aim and objectives, this study investigated the current implementation of DL in KAU through the lenses of the global criteria of quality DL. That is to say, in all DL institutions, there are procedures and practices that should be implemented and reflected practically by DL stakeholders (administrators, faculty and students) to guarantee quality DL which conveys a degree of objectivity according to Saunders, Lewis and Thornhill (2009). In assessing the quality of the implemented DL in Saudi Arabia, the study seeks multi-level views to assess the implementation of quality DL from the perspectives of the three main stakeholders which reflect a subjective stance. This combined with the use of a mixed method choice/approach reflects the element of the critical realism's flexibility that was indicated by Easton (2010) who suggested that critical realism offers the researcher more flexibility in its capacity to embrace a combination of different ontological stances. According to Zachariadis, Scott and Barrett (2010), this bridges the gap between positivism and interpretivism by the use of a mixed choice/approach (qualitative and quantitative) in a single research.

4.3 RESEARCH APPROACH

According to Easterby-Smith et al. (2008) the term 'research approach' relates to the use of the theory in conducting the research, as it defines the direction that the researcher selects to carry out the study. They suggested that, by identifying the research direction, the researcher will be able to make decisions regarding his research design, strategies and data collection choices, taking account of the overall practicalities of conducting research.

Saunders, Lewis and Thornhill (2009) indicated that two research approaches (directions) are distinguishable in conducting research: deduction and induction. Although they suggest that the two approaches can be incorporated in one study, it is worth distinguishing between them as each contains its underpinning assumptions.

In the ***deductive approach***, Creswell (2003) suggests that the researcher tends to design a research strategy that allows him to test hypotheses arising from an existing theory. Accordingly, the researcher should be clear about the theory before conducting the research. According to Yin (2003), the deductive approach assumes that data follows the theory and advocates the use of an existing theory in the formulation of the research question and objectives. Hence, the researcher will be able to develop a framework that helps him to organise his data analysis, informed by the theoretical proposition that he has adopted.

The ***inductive approach***, according to Glaser and Strauss (2009), begins by collecting data, then explores it in order to formulate a theory in the light of the themes or issues that emerge from the data. Accordingly, the researcher develops a theory that is not defined for the researcher before the data collection process and analysis. Saunders, Lewis and Thornhill (2009) indicated that the inductive approach assumes that theory follows the data and suggested that the development of the research question/s and hypotheses should be subsequent to the data collection. In line with this, they proposed that a successful inductive approach entails prolonged data collection and analysis procedures to produce findings that lead to the establishment of a valid theory.

With this in mind, this study has mainly adopted the deductive approach in formulating its framework and evaluation of the current implementation of DL quality at the case studied university. As the study progresses, the adoption of an inductive approach has become necessary to the establishment of the study's strategic approach to the implementation of quality DL. The adoption of the two approaches in research was referred to by Saunders et al. (2011) as the ***abduction approach.***

This is to say, that given the wealth of literature that addresses criteria of quality implementation of DL, the researcher was able to use an existing theory to formulate an initial conceptual framework (see Chapter II; the study evaluative framework) to organise the data collection and analysis in the light of the theoretical proposition that was adopted. The inductive approach started during the data collection as new findings emerged from the new factors and the capacity of the study framework, so that it has expanded to encompass the new factors that influence the implementation of quality DL in Saudi Arabia (see Chapter VII), which has contributed to the development of the study's aimed strategic approach.

4.4 RESEARCH STRATEGY

Saunders, Lewis and Thornhill (2009) suggested that, by developing a research strategy, the researcher builds a general plan that helps him to achieve the research objectives and answer its question/s. They continue to indicate that it is inevitable that the way the researcher chooses to answer the research question/s is highly influenced by the research philosophy and approach and, most importantly, the purpose of the research. Therefore, the study purpose must be defined before discussing in detail the research strategy.

- **The research purpose**

Saunders, Lewis and Thornhill (2009) described three categories of research purposes: exploratory, descriptive and explanatory. The purpose of ***exploratory research*** is to find out '...what is happening; to seek new insights; to ask questions and to assess phenomena in a new light' (Robson 2002, p. 59). According to Saunders, Lewis and Thornhill (2009), studies that aim to investigate relationships between variables and test hypotheses are categorised as ***explanatory research*** and studies that seek further description of the phenomena prior to data collection are termed ***descriptive***.

The study started by assessing the implementation of criteria of quality DL from the perspective of DL stakeholders which fulfils the exploratory purpose of the study. Then, as the study progressed, it strived to detect factors that negatively influence the implementation of quality DL and find relationships between them in order to achieve the ultimate aim of developing a strategic approach which reflects an explanatory purpose. According to Saunders, Lewis and Thornhill's (2009) definition, this places the study purpose within the theme of exploratory research, as a piece of explanatory research. Given that this study does not seek further description of the phenomena prior to data collection, the descriptive purpose is therefore not reflected in this study.

- **The research strategy**

Identifying the research philosophy, approach and purpose in the previous sections paved the way to defining a clear research strategy. One way of providing a clear base for the chosen research strategy is to discuss why other research strategies were not chosen in the light of the research question/s, objectives and purpose. Although this way seems simplistic, it can offer a way of justifying briefly the research's strategic approach.

Saunders, Lewis and Thornhill (2009) classified research strategies into seven categories and suggested that each of these have strengths and weaknesses; no strategy is superior to another or cannot be used as part of another strategy.

These seven strategies are: experiment strategy, action research strategy, grounded theory strategy, ethnographical strategy, archival research, survey strategy and case study strategy which are discussed briefly in light of their characteristics.

The ***experiment strategy*** purpose described by Hakim (2000) is to study causal links between variables which involve assigning two groups of participants and a planned intervention or manipulation. In this study, no intervention or assigning of experimental groups is needed, therefore the experimental strategy was not applicable. The ***action research strategy,*** indicated by Coghlan and Brannick (2005), advocates a direct researcher involvement in a cycle of actions, starting by diagnosis of the problem, then planning for action to take place and finally evaluation, which does not suit the study purpose and time schedule. The ***grounded theory strategy,*** as described by Glaser and Strauss (2009), suggests that data collection should begin without any theoretical framework or theory to lead the investigation. This is not the case in this study as this study starts with a theoretical framework that is drawn from the literature to lead the study investigation.

The ***ethnographical strategy,*** according to Saunders, Lewis and Thornhill (2009), requires the researcher to immerse himself completely in the context of the phenomena over an extended period of time, which, because of time limits and limited access, is not a suitable nor a feasible strategy to adopt in this study. The ***archival research strategy,*** that is suggested by Bryman (1989), restricts the study principal data source to administrative records and documents and does not serve the study purpose of investigating the phenomena from three different perspectives (administrators, faculty members and students). The ***survey strategy***, according to Saunders, Lewis and Thornhill (2009), suggests the collection of quantitative data to be analysed using descriptive or inferential statistics. This limits the study variables to a certain number and methods of analysis if it is used exclusively. Accordingly, it was used as part of the study strategy.

To fulfil the study aim and objectives (see Chapter I), the study used a strategy that utilised multiple sources of evidence from different perspectives to gain rich data about the context of the study. This reflected the characteristics of the ***case study strategy*** described by Robson (2002) as a strategy that uses multiple sources of evidence to investigate a particular contemporary phenomenon in its real context. The study adoption of a case study strategy is to seek a clear understanding of the phenomena (DL quality) through multi-level views (administrators, faculty and students) to gain insights from the real context (KAU in Saudi Arabia as a case study) and reflects the characteristics of a critical realists' position which, according to Easton (2010), is the predominant theme adopted by critical realist researchers.

Yin (2003) suggests that the use of a case study strategy enables the researcher to gain rich understanding of the research context through the use of various data collection techniques. Accordingly, it allows the researcher to triangulate data that are collected from multiple sources to promote the trustworthiness of the findings. According to Saunders, Lewis and Thornhill (2009), the use of a case study strategy helps the researcher to answer the question of what is happening and why it is happening, which makes it a widely used strategy in exploratory and explanatory research. By using a case study strategy, the study was able to serve its purpose of exploring phenomena through answering the question of what is happening in KAU with regard to the implementation of quality DL using data collected from multiple sources of data (observation; interview; survey and document review). Moreover, it helped to serve the explanatory part of this study through its rich understanding of the context to answer the question of why DL quality criteria were not implemented and how it can be implemented. In summary, the choice of a case study strategy resonates with the study question, aims and objectives and reflects the research philosophy and purpose.

- **The case study dimension**

Given that the case study has been identified as the study strategy, it is essential to define the dimension within which this study falls. Yin (2003) distinguished two dimensions for case study strategy: single case versus multiple cases and holistic case versus embedded case. ***Single case*** is often used when the case is unique or provides insights into phenomena that cannot be provided in other cases; this situation does not apply in this study. He continues to describe the characteristics of these two aforementioned dimensions. In his description, the use of a ***multiple case study*** strategy often reflects the need to generalise the findings, which is not required in this study; furthermore, because of time and access limits, it will be hard for the researcher to investigate the implementation of quality DL in different universities in different areas of the country.

The ***holistic case study*** strategy refers to the investigation of phenomena in an organisation as one unit, while the ***imbedded case study*** strategy suggests that the investigation can encompass logical sub-units within the whole organisation. According to Yin (2003) the use of an embedded case study strategy offers a clearer understanding of the phenomenon, as it provides the researcher with a multi-case view within one case, which fulfils the study purpose in a feasible process.

To conclude, this study uses an embedded case study strategy as it investigates the phenomena in one organisation as a whole by examining logical sub-units within the organisation. It treats KAU as the whole organisation with four logical sub-units represented by the four DL colleges in KAU.

4.5 RESEARCH CHOICES

In most case study strategies, the use of multiple methods is predominant (Saunders, Lewis and Thornhill, 2009). According to Easton (2010), one important aspect of the case study strategy is the use of various data collection techniques. According to Tashakkori and Teddlie (2003), the choice of using multiple methods embraces two possibilities: multi-method and mixed method. ***Multi-method choice*** refers to the use of more than one data collection technique that is analysed either quantitatively or qualitatively and cannot be both. On the other hand, ***mixed method choice*** includes two choices: that of ***mixed models*** and ***mixed methods***. The first refers to the use of a combination of qualitative and quantitative data collection techniques and analysis, but qualitative techniques could be analysed quantitatively and vice versa. The latter refers to the use of a combination of qualitative and quantitative data collection techniques, each with its associated analysis procedures, which is the case in this study. The study used a mixed method choice to investigate the phenomena, which suggests the use of qualitative data collection techniques, in the form of observations, interviews and document reviews, with their associated qualitative analysis procedures. This is combined with a quantitative data collection technique by means of survey, with its associated quantitative analysis procedures. The use of a mixed method choice, according to Tashakkori and Teddlie (2003), allows the triangulation of the collected data to produce findings that can be trusted and allow inferences to be made from them. Here, Bryman (2006) suggested that the purpose of using mixed methods must be made explicit and provided seven reasons for using a mixed methods. (See Figure 4.2 on the next page).

Reason	Explanation
Triangulation	Use of two or more independent sources of data or data collection methods to corroborate research findings within a study
Facilitation	Use of one data collection method or research strategy to aid research using another data collection method or research strategy within a study (e.g. qualitative/quantitative providing hypothesis, aiding measurement, quantitative/qualitative participant or case selection)
Complementary	Use of two or more research strategies in order that different aspects of as investigation can be dovetailed (e.g. qualitative plus quantitative questionnaire to fill in gaps qualitative plus quantitative questionnaire for issues, interview for meaning)
Generality	Use of independent source of data to contextualise main study or use quantitative analysis to provide sense of relative importance (e.g. qualitative plus quantitative to set case in broader context; qualitative x quantitative analysis is to provide sense of relative importance)
Aid interpretation	Use of qualitative data to help explain relationships between quantitative variables (e.g. qualitative/qualitative)
Study different aspects	Quantitative to look at macro aspects and qualitative to look at micro aspects
Solving a puzzle	Use of as alternative data collection method when the initial method reveals unexplainable results or insufficient data

Figure 4.1: Purposes of using mixed method choice, Adopted from Saunders, Lewis and Thornhill (2009, p.154)

The purpose of using mixed methods in this study was to enable facilitation and triangulation. The purpose of facilitation in this study can be clearly identified in the use of a document review in aiding (informing) the use of interviews (by enhancing the interview inquiries). The interviews' findings aided the use of the students' survey in the construction of items that take into account issues raised in the interviews and assess clearly the current status of DL at the university (see Chapter V: section 5.3.4). Findings from the previous three data collection techniques have informed the observation technique which was used to clarify any inaccuracies in descriptions or information and compare and contrast the overall findings to promote the trustworthiness of the study results. Finally, the Delphi survey was used to validate the study solutions, which were a result of conclusions guided by the assessments conducted by the study, which employed four data collection techniques (document review, interviews, students' survey and observation). The triangulation purpose, according to Bryman (2006), applies to the situation where multiple sources of data or data collection techniques can be corroborated within the study to enhance the findings. This study corroborated data collected from different sources (administrators, faculty members, students, documents and observed events) using differing techniques (interview, observation, document review and survey) to enhance the findings of the study.

The use of the mixed method choice, according to Cameron (2009), entails the definition of the different designs associated with the use of mixing qualitative and quantitative approaches in one research. Many designs were associated with the use of the mixed method choice.

For instance, Caracelli and Greene (1997) suggested seven mixed method designs while Creswell and Plano Clark (2007) suggested four designs and Tashakkori and Teddlie (2003) proposed six. However, all those designs intersect in the notion proposed by Mertens (2005, p. 292) that the use of a mixed method takes two forms, "Parallel Form: concurrent mixed-methods/ - model designs in which two types of data are collected and analysed and Sequential Form: one type of data provides a basis for collection of another type of data". It can (see Figure 4.2 on the next page) therefore be concluded that this case study has used a mixed method choice in its sequential form (see figure 4.3).

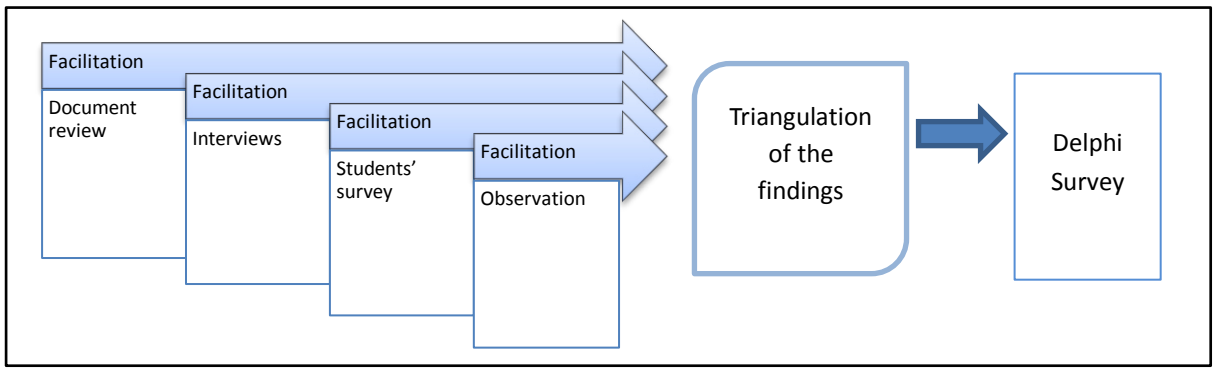

Figure 4.2: Sequential form of mixed method choice

4.6 RESEARCH TIME HORIZON

Saunders, Lewis and Thornhill (2009) identified two horizons: longitudinal and cross-sectional. They indicated that the ***longitudinal research time horizon*** aims to study changes and development of the phenomena over time, which requires an extended research time that coincides with the development of the phenomena. Given that the study does not aim to investigate changes in the phenomena over time and has a limited time in which to be conducted, this study is not a longitudinal study. The ***cross-sectional time horizon***, on the other hand, aims to investigate the phenomena within a particular time. Given that the study question can be answered and its objectives can be achieved by investigating the phenomena within a particular time frame, that is during the 2013-2014 academic year, the study time horizon fall into the ***cross-sectional study's*** time horizon category.

4.7 RESEARCH TECHNIQUES AND PROCEDURES

Yin (2003) suggested that the use of a case study strategy implies that many data collection techniques and procedures were used to produce data that answers the research question and meets the research objectives; these data collection techniques are triangulated to enhance the trustworthiness of the findings.

Healy and Perry (2000) suggested that, in research that uses qualitative and quantitative data collection techniques, different measures must be employed to ensure the validity and reliability of the findings. When using quantitative data, measures of validity and reliability must be applied to ensure the validity and reliability of the results.

When considering qualitative data, however, measures of validity and reliability are different and are more concerned with the trustworthiness and dependability of the findings, which reflect the quality of the research. Campbell, Moore, and Shrives (2006) suggested that the trustworthiness of qualitative data can only be assessed through well-defined steps that are verified and examined to reflect in detail the procedures and processes during the data collection, its reduction and analysis. In this section, data collection techniques, therefore, are discussed separately in two sections and in the order in which they were conducted, to address the different sampling strategies, procedures and measures of validity and reliability applied.

4.7.1 Qualitative data collection techniques

I. Document review

According to Saunders, Lewis and Thornhill (2009), data produced for any other purpose, which can be used and reanalysed to serve the purpose of a study, are referred to as secondary data. Types of secondary data include documents, multi-source and surveys. Grbich (2012) and Silverman (2013) suggested that the document review technique is often used in the initial stages of studies to explore the current situation and to inform other data collection techniques that require investigating in-depth information. Moreover, Yin (2003) suggests the use of document reviews to triangulate the findings with other findings that utilise primary data sources, to promote the trustworthiness of the findings. This reflects the use of a document review in this study as the study used document review as the first data collection technique to aid the use of the other data collection techniques and triangulate their findings with other data sources.

The study has gained access to 29 printed documents that are pertinent to the DL at the university. Decisions as to which documents are trustworthy and can be used to serve the study purpose (suitability) were based on many factors suggested by Denscombe (2007). Suggestions included were that the documents must be pertinent to the study and that the documents were not selected on their face value but rather as those that shed light on important issues related to the study variables and these were the ones selected.

Moreover, the reliability of the document source was also of concern; the selected documents were produced and printed by KAU and were placed under the administrative scrutiny of the Saudi Ministry of Higher Education.

Accordingly, the selected documents were produced officially by the university departments as Tameems (circulated decisions and facts) which do not reflect the informal views of individuals; this is deemed to reduce the author/s' bias along with the possibility of deliberate distortion of the documents' facts.

In addition, the timeframe and to whom these documents were directed were checked to ensure their timeliness and pertinence with regard to the study timeframe and population. The collected documents were analysed using qualitative thematic analysis procedures (see Chapter V: section 5.3.2)

II. Semi-structured interviews

Stokes and Bergin, 2006, describe 'interview' as a data collection technique that utilises discussion between two or more people to gather data that are relevant to the research question/s and objectives. When the discussion is conducted with two or more people at the same time, it is termed a 'group interview or focus group' (Saunders, Lewis and Thornhill, 2009). The study is concerned with discussion between two people (the researcher and the interviewee) to collect detailed information with regard to specific issues which fall into the category described by Saunders, Lewis and Thornhill (2009) as interviews. They suggest that the commonly used typology to classify interviews falls into three categories: structured interviews, semi-structured interviews and unstructured interviews**.** According to Saunders, Lewis and Thornhill (2009), ***structured interviews*** are sometimes referred to as interview-administered surveys which reflect the collection of quantifiable data. ***Unstructured interviews*** tend to be guided by the interviewee and suggest that no predetermined questions lead the interview. On the other hand, they indicated that ***semi-structured interviews*** tend to focus on predetermined themes that direct the questions and flow of conversation, but, nevertheless, offer flexibility to the researcher in allowing changes in the order of the questions asked, or the ability to add or omit questions to explore the study themes.

Given that the study started with a deductive approach, semi-structured interviews were the study utilised technique that enabled the researcher to explore particular themes derived from an existing theory. Cooper and Schindler (2008) indicated that semi-structured interviews are predominantly used in exploratory studies that include explanatory elements; this supports the use of semi-structured interviews in this study (see section 4.5) that includes exploratory investigation as a piece of explanatory research.

The interviews aimed at assessing the quality of the implemented DL quality and identifying barriers that face the implementation of quality DL from the perspective of faculty members and administrators (see Chapter I: the study objectives). The interviews were analysed using qualitative thematic analysis procedures (see Chapter V: section 5.3.2).

Because of the qualitative nature of this data collection technique, detailed information regarding the procedures and steps taken before, during and after interviews to promote the trustworthiness of the findings, is appended (see Appendix 1). Information regarding the interviews' considerations are summarised in Table 4.1.

Table 4.1: Interviews considerations

	Administrators' interviews	**Faculty members' interviews**
Aim	To evaluate the current implementation of quality DL from the administrators' perspectives in order to identify barriers to the implementation and possible solutions.	To evaluate the current implementation of quality DL from the faculty members' perspectives in order to identify barriers to the implementation and possible solutions.
Sampling Strategy	Possible participants were identified using a non-probability purposive sampling strategy, defined by Neuman (2005). Critical case sampling, a type of purposive sampling strategy identified by Patton (2002), was used to identify possible administrators for interview as informative respondents were required to meet the study objectives. According to Patton (2002), in this strategy, participants are selected on the basis of three factors: they have a better understanding of the process; they are well-informed with regard to the phenomena under investigation; they can provide an overall view into the phenomena.	Possible participants were identified using non probability quota sampling. This strategy of sampling, according to Barnett (1991), aims to represent the population based on the fact that the quota characteristics represent the significant characteristics of the population. The quota characteristics in this study were the college that the faculty member belongs to and gender, as many studies indicate that gender plays a significant role in DL experiences (Byrne and Koenig-Visagie, 2012; Kupczynski, et al., 2014; Wolfenden and Murphy, 2013). The quota sample was therefore represented by two main characteristics: college and gender.
How many participants?	Seven administrators.	16 faculty members (two males from each of the four different DL programmes and two females from each of the four different DL programmes).

Why?	Given that the researcher has spent four years working in the organisation and is well-informed about its structure and characteristics, he chose seven administrators (the dean of DDL, four vice deans and the two heads of educational affairs) who represent participants who have a better understanding of the DL processes at KAU. They are well-informed about the DL regulations and procedures and they can provide an overall view of the DL current situation.	Thompson (2002) suggested that using non probability Quota sampling offers a strategy of qualitative sampling that guarantees that every sub-group is represented and ensures an acceptable level of transferability. Thus, the non-probability Quota sampling strategy was chosen to ensure that the faculty member population was represented in the sample.
How many is enough?	Taking into consideration what has been suggested by Saunders, Lewis and Thornhill (2009), recruiting of participants continued after analysis until data reached saturation level (no new data or additional information emerged). Given that data analysis started during the data collection period and continued afterwards, in compliance with Guest, Bunce and Johnson, (2006), the study was able to determine the required number of participants working by the aforementioned suggestions, which resulted in the number indicated above (in the "How many participants?" column).	

III. Observation

Observation, according to Delbridge and Kirkpatrick (1994), is a technique that allows the researcher to collect data by observing participants in their normal setting (environment) during an activity. This technique offers an opportunity for the researcher to immerse himself in the participants' environment and observe them in the normal setting which, according to Ackroyd and Hughes (1992), is characterised by its high face validity. Drury (1992) referred to this technique as direct observation and suggested that it can take two forms: structured and free (unstructured) observation. Structured observation involves a categorisation of behaviours/actions in either a broad form or a detailed form depending on the degree of objectivity intended. In the latter form, the observers record their impressions and interpretations regarding the observed event which implies a high level of subjectivity. Given that the aim of conducting the observation was to clarify accuracies in descriptions or information to the researcher and compare and contrast the overall findings to promote the trustworthiness of the study results, the study used the free (unstructured) observation form after taking into account many considerations.

According to Ackroyd and Hughes (1992), collecting data from observation depends mainly on the observer's role in observing the activity. Accordingly, the researcher has adopted an 'observer as participant' role where the researcher attends and observes the activity but does not take part in it. This was reported by Ackroyd and Hughes (1992) to allow the researcher to focus on his role as a researcher and write down his immediate thoughts during the activity, therefore enhancing the trustworthiness of the data by overcoming issues related to the 'observer effect'. Robson (2002) suggests that findings from the observations need to be triangulated with those from other techniques as it does not involve interference with the participants in real time for clarification of the researcher's interpretation. This means that the observer's interpretation of events needs to be compared with the findings from other data sources (Robson, 2002). Accordingly, the observations' findings were triangulated with those gained from the other techniques (documents review, interviews and students survey) to enhance the trustworthiness of the study findings. Moreover, in compliance with Marshall and Rossman's (2014) suggestion, the observations were conducted as the last technique, following all the data collection techniques used, in this study aiming at clarifying any inaccuracies in descriptions or information and comparing and contrasting the overall findings to promote the trustworthiness of the study results. The observations were analysed using qualitative thematic analysis procedures (see Chapter V: section 5.3.2).

The observation included eight DL classes which were chosen purposively (non-probability sampling) by applying the maximum variation sampling procedure described by Saunders, Lewis and Thornhill (2009). Classes were selected on the bases of their diversity of time, gender and programme (department). According to Saunders, Lewis and Thornhill (2009), this method of sampling allows the study to avoid many factors that may reduce the trustworthiness of the collected data such as time and subject error. This resulted in eight different DL classes observed (four 'male' classes and four 'female' classes- which were taught by male faculty members as access to female taught classes were not possible, given the researcher is a male researcher - across the four different colleges that offer DL) among the visits to DL related departments. The researcher was given a user account so he could log into the permitted DL classes as a participant observer. Although immediate notes were taken during the observation to describe/record what had been observed, DL classes were also recorded using an application programme called "Free Screen Video Recorder" to allow further analysis.

The observations focused on events, actions and settings that were related to the criteria of the study framework and key issues were raised by the other data collection techniques (document review, interviews and surveys).

These were described/recorded and brief questions to staff involved in related events (during visits to DL related departments) were asked, if necessary, to clarify surrounding issues. The researcher was provided with permission, a document/pass, to enable him to have access to DL facilities at the university in the male sections as access to female facilities was not permissible. Finally, the observations were analysed using qualitative thematic analysis procedures (see Chapter V: section 5.3.2).

IV. Procedures employed to promote the trustworthiness of the qualitative findings

Yin (2003) suggested that the nature of the embedded case study helps to increase the credibility of the study findings by comparing and contrasting results of every individual unit of analysis inside the overall case studied. Accordingly the study utilised the characteristics of the embedded case study strategy to compare and contrast the results of every DL college inside the overall unit (KAU university) which is manifested in the analysis of the qualitative data (see Chapter V).

In promoting the qualitative data, conformability procedures were applied. Conformability refers to the degree in which findings can be confirmed by others (Guba and Lincoln, 2001). Accordingly, findings of the aforementioned qualitative data collection techniques were discussed with two of the researcher's colleagues, to address issues related to the methodological steps; reasons were provided to explain the researcher's interpretations and further possible explanations. By doing so, the researcher was able to promote the conformability by confirming his interpretation with other colleagues.

4.7.2 Quantitative data collection techniques

I. The survey

This study employed a survey as a part of its case study strategy (see section 4.5). DeVaus (2002) defined the survey as a data collection technique that allows the researcher to ask individuals to respond to a set of pre-determined questions. Gill and Johnson (2002) indicated that the use of the survey provides an efficient way of collecting data from a large sample with standardised questions to help the researcher to describe the phenomena and examine relationships between the variables. Thus, the study used a survey to seek students' opinions about a set of standardised questions comprising 59 items in five dimensions related to the criteria of the quality of the implemented DL at the university (see Appendix 2).The purpose of the survey is to assess the implementation of quality DL as perceived by the students.

This is intended to help achieve the final part of the study's objective of assessing the implementation of quality DL from the perspective of DL stakeholders (administrators, faculty members and students). The survey findings were incorporated into those obtained from data collected from administrators and faculty members along with the other collected evidence from documents and observation. By doing so, the study was able to triangulate the findings, not only by incorporating data from different techniques, but also from different sources and levels of individuals in the same organisation. This mirrors the critical realism philosophy of obtaining enhanced and trustworthy findings through investigating the phenomena from the perspectives of different levels of individuals proposed by Healy and Perry (2000).

Given that the whole population is of a manageable size and the survey took two forms - self-administered and intranet-mediated, the sample of the survey consisted of the whole student population (1200 students). Distributing surveys to the whole population, if feasible, was suggested by deVaus (2002) to reduce bias and guarantee an acceptable response rate. The questionnaire response rate was 40 % (482 participants responded) of the targeted participants which is an acceptable response rate according to Saunders, Lewis and Thornhill (2009).

An adaptation of the Chen et.al (2011) survey that incorporated findings from two previously used data collection techniques (interviews, documents) was used to collect data from the DL students at the university. Given that the survey was adapted from the Chen et.al (2011) survey which is an English version, the survey was first translated into Arabic then translated back to English as suggested by Sperber, Devellis, and Boehlecke (1994) to promote the validity of the translation and make sure that items in the Arabic version conveyed the same meaning.

This has resulted in five items in the students' profile section regarding students' characteristics: gender, age, level of education, department/major and years of experience that was indicated by many studies to have an effect on the students' responses (Ghosh, 2011; Horvat, Krsmanovic and Djuric, 2012; Rodriguez, 2011). Moreover, the survey consisted of 59 items across five categories: institutional mission, technology, instructional support, evaluation and student support. The study used a Likert-style rating scale to gather students' opinions regarding the survey items, offering five possible responses (strongly agree = 5; agree = 4; not sure = 3; disagree = 2; strongly disagree = 1). Dillman (2007) proposed that this five choice Likert scale is predominantly used to gather opinions from respondents without forcing them to express negative or positive feelings towards the survey, if there was no need to offer more choices, which was the case in this study.

Moreover, Yes/No questions with brief comment sections were used and finally a space for any additional comments was provided by the survey.

In designing the survey many suggestions by Edwards et al. (2002) relating to the clarity of the questions, logical flow of the items, introduction of new topics and survey length (that of 4-8 A4 pages) were used to promote the validity of the survey. Items were included in the survey that compared the respondents' responses to questions that investigated the same issue in order to provide alternative form reliability. The survey items were reviewed by three experts in the field to assess their content validity**.** Nine items were changed and two items in the technology dimension were deleted**.** Finally, the survey was piloted by10 students (five female and five male DL students) which, taking into account time and resource limitations, provided an efficient way of assessing the survey's suitability and clarity, as well as enabling the researcher to assess the survey's internal consistency**.** Cronbach's alpha test was used to assess the consistency between the scales items (Fink, 2003)**.** The 10 participants were asked at the end of the survey to provide information regarding the clarity of the survey items and instructions, the time it took them to fill out the survey and to give any other comments. The average time to answer the survey was nine minutes. No change in the items has occurred. The Cronbach's alpha test was performed to assess the internal consistency between the scales items in the pilot survey. Results showed that the institutional mission subscale consisted of 17 items ($\alpha = 0.920$), the technology subscale consisted of 16 items ($\alpha = 0.897$), the instructional support subscale consisted of eight items ($\alpha = 0.865$), the student support subscale consisted of 10 items ($\alpha = 0.970$) and the evaluation subscale consisted of eight items ($\alpha = 0.835$) which demonstrated an acceptable level of consistency according to Fink (2003).

II. The Delphi survey

The last step of the study aimed to validate the study's solutions and create a pathway that guides the construction of the study devised strategic approach to the implementation of quality DL in Saudi Arabia. One credible way of achieving the aforementioned aims was through seeking expert opinions, which have proved successful in the distance learning field in many studies (Buss, 2001; Goho, MacAskill and McGeachie, 2003; Rockwell, Furgason and Marx, 2000) that aimed to evaluate and explore priorities and choices germane to DL practices. Given that the study aimed to involve many experts (more than ten) from around the country to gain credible and collective agreement on the study concluded solutions, it was not feasible/possible for the study to invite them to work together in a physical location.

The use of the Delphi survey has provided a means for the study to achieve its aims for two reasons. Firstly, it is a credible method that is widely used by researchers in the DL and educational field (Goho, MacAskill and McGeachie, 2003). Secondly, it is a method that is designed to gain consensus amongst a group of experts/practitioners with no need for a physical presence in a limited time (Kalaian and Kasim, 2012). Moreover, by using this method, experts work independently in a way that guarantees the exclusion of any hierarchical/power effect that results from participants being able to contact each other, which serves the study purpose. This is suggested by Kalaian and Kasim (2012) to promote the credibility of the survey findings.

The study started by identifying a group of experts to be invited to participate in the survey based on a suggestion cited by Shanteau (1992). The targeted participants were educators from different DL institutions around the country who had spent at least five years of experience in a DL leadership role in their institution/university (as the introduction of DL in the country is relatively recent) and were recognised for their contribution in the field. By reviewing the profile of each candidate, 19 regional experts were contacted to participate in the experts' panel. They were contacted through their emails and informed about the conditions and instructions of the survey (see Appendix 3).

Thirteen participants agreed to participate in the survey and it ended up with ten participants (eight males, two females) who continued until the end of the survey's three rounds which is an adequate number of experts for the Delphi survey findings to be acceptable according to Hsu and Sandford (2007a). The first draft of the Delphi survey consisted of 26 items (solutions proposed by the study to improve the implementation of quality DL) under six categories and additional space was added for any items that experts saw as necessary.

After being reviewed by three of the potential experts for clarity and classification of the items and the directions provided. Four items were deleted due to repetition; the words "career-wise" and "financially" were suggested to explain the type of faculty members' rewards in two items and the definition of the phrase "Saudization plan" was recommended. In another two cases the phrase "such as" was changed to "include". No changes have occurred in the item classifications and no more items were added. The final draft of the survey contained twenty-two items categorised under six different categories: four items in the institutional mission category, four items in the technology category, four items in the instructional support category, three items in the faculty support category, four items in the students support category and three items in the evaluation category.

Although the Delphi survey typically starts with an open-ended form to collect its intended items, Hsu and Sandford (2007b) suggest that a modified form of the Delphi survey, using a close-ended survey, can be used if a set of possible solutions are available. Given that the study generated a set of possible solutions and its aim of conducting the Delphi survey is to build a consensus on the validity of its predicted solutions, it used the modified form of the Delphi survey and moved straight to building consensus on the set of its proposed solutions. Panellists were asked to rank items of the survey based on a 1-7 point Likert scale suggested by Vagias and Wade (2006) where 1= "strongly agree", 2= "agree", 3= "somewhat agree", 4= "neither agree nor disagree", 5= "somewhat disagree", 6= "disagree" and 7= "strongly disagree".

4.8 JUDGING THE TRUSTWORTHINESS OF THE STUDY FINDINGS

Although many procedures have been employed to promote data trustworthiness of the collected data (see the previous two sections), triangulation of data played a major role in ensuring that the findings of this study are credible and trustworthy. According to Yin (2003), researches that use case study strategy tend to employ more than one data collection technique to help triangulate the collected data. Triangulation of the findings is suggested by Yin (2003) to enhance the trustworthiness of the study interpretation. The use of a case study strategy that utilises different techniques (document review, interviews, surveys and observations) and investigates the phenomena from three different perspectives has enabled the study to obtain a comprehensive understanding and collective view into the implementation of quality DL at KAU. In doing so, the study applied three types of triangulation based on aspects of triangulations described by Denzin (1970).

This included triangulation of data from different data collection techniques, sources and perspectives (see Table 4.2).

Table 4.2: Triangulation aspects

Triangulation aspects				
Techniques	Interview	Observation	Document review	Survey
Data sources	Individuals	Settings, events and actions	Text	Individuals
Perspectives	Administrators and faculty members	Researcher	University authority	Students

4.9 SUMMARY AND CONCLUSION

The study reflects the characteristics of the critical realism philosophy by focusing on building methodology that is more concerned with the inclusion of different levels of individuals in an organisation in order to understand the phenomena through a multi-level view using a mixed method design. Accordingly, the study adopts a subjective ontological stance to investigate the implementation of quality DL in KAU through individuals' perspectives. Although it adopts the subjectivist stance, it utilises some aspects of objectivism by investigating the implementation of quality DL in KAU using global criteria to build its understanding of quality in DL. Given the wealth of literature that is related to the implementation of effective DL globally, this study has mainly adopted a deductive approach to formulate its research question and objectives.

In conclusion, the study approach that aims to develop a strategic approach for quality implementation of DL in the country can be fulfilled by the utilisation of a case study strategy that gathers evidence from multiple techniques, resources and individuals. This ought to provide a comprehensive view of the current status of implementing quality DL in Saudi Arabia and help detect barriers to such implementation. Accordingly, this chapter has contributed to the achievement of the study objective that aimed to select valid methodology to evaluate the quality of the implemented DL in the Saudi context using KAU as a case study.

A summary of the case study, including the used techniques, purposes, sources of data and their related objectives, is presented in Table 4.3 on the next page.

Table 4.3: Summary of the study techniques, purpose and source of data with its related research objective

Technique	Purpose	Data source	Relation to the study objectives
Document review	• Obtain data from officially produced documents (regulations) to enhance/aid interpretation and findings from other techniques/sources (triangulation).	• Organisation's documents (text).	• Triangulation of evidence.
Interviews	• Obtain detailed information.	• Administrators.	• To assess the implementation criteria of quality DL from the administrators' perspectives. • To determine factors that influence negatively/positively the implementation of quality DL.
		• Faculty members.	• To assess the implementation criteria of quality DL from the faculty members' perspectives. • To determine factors that influence positively/ negatively the implementation of quality DL.
Students' survey	• Obtain data from a large sample.	• Students.	• To assess the implementation criteria of quality DL from the students' perspectives. • To determine the factors that influence negatively the implementation of quality DL.
Observations	• Obtain real time data to enhance interpretation and findings using other data collection techniques/sources (triangulation).	• Eight DL classes and settings, events pertinent to DL at the university.	• Triangulation of evidence
Delphi survey	• Guide the study formulation of a strategic approach to the implementation of quality DL in Saudi Arabia	• Group of DL experts in Saudi Arabia	• Validate the study concluded solutions

In the next two chapters, the results and analyses of the employed data collection techniques are addressed to fulfil the study's fifth objective of assessing the quality of the current implemented DL and identify barriers that face such implementation in the case studied university.

CHAPTER V

QUALITATIVE ANALYSIS AND RESULTS

5.1 INTRODUCTION

This chapter provides a brief introduction to the qualitative data collection techniques used in this study. It presents the qualitative data collection techniques (document review, interviews and observations) and their associated analyses procedures and results. The study started with a document review then moved on to conducting interviews with administrators and faculty members followed by the student survey (see Chapter VI) and finally observations. Therefore, the three qualitative data collection techniques (document review, interviews and observations) were presented respectively to help shed light on the study findings and the building of its comprehensive understanding in an accumulative manner. The main aim for this chapter is to assess the implementation of quality DL using the study evaluative framework (see Chapter II: section 2.6) from the perspective of faculty members and administrators in order to identify barriers that face the implementation of quality DL. The interviews findings are triangulated with evidence from documents and observations to promote the trustworthiness of the study findings. A comparison table of the overall study finding is presented in the light of the study framework to show the degree of agreement between evidence from the different sources that include the qualitative and quantitative data collection techniques used in this study (see Appendix 4).

5.2 DOCUMENT REVIEW

The main aim of conducting the document review was to provide initial assessment for the quality of current DL at the university based on the study framework (see Chapter II, the study framework) and, at the same time, enhance inquiries for the subsequent data collection techniques by identifying key issues for further investigation. Hence the study, at its first stage, started by reviewing the available and accessible documents to explore the current DL situation at KAU, and it was therefore able to develop a better understanding of the organisation, processes, operations and problems before moving to the next data collection stages.

5.2.1 Reviewed documents

After taking into account many factors suggested by Denscombe (2007), 29 documents were reviewed (see Chapter IV for more details).

The selected documents were produced officially by the university departments as Tameems (circulated decisions and facts) and do not reflect the informal views of individuals; this is deemed to reduce the author/s' bias and any deliberate distortion of the documents' facts. These documents ranged from those addressing the university's strategic plans, procedures, policies and mechanisms for implementation, to internal reports sent by DL related departments. Although these documents are not published, the title of the documents and the year of issue were provided to offer a brief description of the reviewed document.

5.2.2 Method of analysis

In analysing the documents the study has used a qualitative analysis method termed thematic analysis (see interview methods of analysis for more details). As suggested by Kvale (1996), the researcher has produced a summary of the documents to compress long statements into brief statements that cover the key points. This technique enabled the researcher to focus on the relevant parts of the document and reduce the data into manageable summaries that can be categorised meaningfully. Summaries were labelled in relation to the related themes of the investigation (categorised) and notes were attached to each document to explain the purpose of the document and its related themes. This was indicated by Robson (2002) to allow the researcher to verify and compare the findings of other sources with those arising from the reviewed documents.

5.2.3 Document review results

In this section results are presented in relation to the criteria proposed in the study's six dimension framework for implementing quality DL:

I. Institutional mission dimension

The review of documents in this dimension focused on documents that address: DDL authority, DL courses scheduling and provision of the needed DL programmes/degrees, marketing plans for DL and DL equivalency to TL.

- **Issues related to implementing criteria of sufficient authority:** in the Deanship of Distance Learning Second Strategic Plan (2012:16) it was stated that "...the lack of clarity of the overall procedures that are introduced by the Ministry of Higher Education made it difficult for the DDL to have control over the multiple services that are provided by different DL service departments and colleges". This document revealed the ambiguity of MOHE regulations concerning DL and highlighted the need for investigating the impact of this factor on the consistency of the DL regulations and DDL ability to foster collaboration between DL-related departments and colleges.

- **Issues related to implementing criteria of adequate course scheduling and provision of the needed DL programmes/degrees:** in an internal report titled "Regarding the 2012-2013 Courses Schedule" (2012), shortage of students was cited as a problem which had an effect on presenting a change package. In this report, the modified new scheduling scheme showed that some of the classes were deferred to the next year. In the same vein, in a response to a written request from KAU authorities, the DDL response indicated that the foundation of new DL degrees was cancelled due to a shortage of registered students and the need for more faculty members to cover other expansions (Regarding the New Degrees Scheme, 2012). These findings revealed elements of inadequate course scheduling plans for the enrolled DL students and problems associated with the foundation of new DL degrees and programmes to meet the community needs. Accordingly, they provoked questions related to the influence of factors, like the shortage of students and faculty members, on the university's ability to found new degrees and reasons behind the inadequacy of the university scheduling plan for DL enrolled students.
- **Issues related to implementing criteria of adequate marketing plan for DL**: no document was found of any marketing schemes or procedures, apart from one reference to NCDL as the centre for future promotional schemes. However, in The Deanship of Distance Learning Second Strategic Plan (2012) document, it was disclosed that the absence of national marketing schemes is one of the weak points of DL in the country. This documented evidence raised questions related to the impact of the absence of a national marketing scheme on the university marketing and its ability to promote the awareness and importance of DL for potential DL students and the community.
- **Issues related to implementing criteria of DL equivalency to TL**: the Uuniversity Procedures for The Development of E-courses (2010) document stipulated that DL programmes should meet the same traditional programme requirements as TL which includes content and outcomes. Nonetheless, in the review of two documents that were dedicated to addressing the policies related to DL certification (The University Policy of The Guarantees Given to The Students by The Deanship to Get The Degree Certificate, 2010; The University Policy of Recognition and Accreditation to Granted Distance Learning Certificate, 2012), no indication was provided of policies that address acceptance of those certificated by the university in any public or private institutions.

Although such documents revealed the implementation of the same traditional programme requirements to DL, they indicated the absence of policies that address DL certificate recognition and accreditation. Consequently, they put forward the need to investigate the influence of the lack of policies that address the acceptance of DL certificates on their recognition and accreditation in the country compared to TL certificates.

II. Technology dimension

The review of documents in this dimension centred on documents relevant to accessibility to DL delivery requirements, technological infrastructure and technical support.

- **Issues related to implementing criteria of accessibility to DL delivery requirements**: according to the Mechanisms for Implementing Distance Learning Electronic Applications (2012) document, it was indicated that a review of the usability and accessibility of the DL application was to be performed by the technical department, in cooperation with contracted companies. There was, however, no mention of feedback or cooperation with the concerned DL departments and colleges. Other evidence gathered from the Deanship of Distance Learning Second Strategic Plan (2012, p.15) document disclosed, "The unavailability of regulations to organise an effective relationship between the deanship of distance learning and the concerned distance learning departments and colleges" as one of the many obstacles that face the technological department's success in making decisions related to the development of DL applications and learning materials. Such findings indicated the lack of cooperation between DL concerned departments and colleges and the technological department in the DDL.

  Additionally, they emphasised the importance of examining the association between the lack of cooperation between the technological department in the DDL and the DL concerned departments/colleges and the university's ability to implement accessibility to DL delivery requirements.

  Moreover, in the Deanship of Distance Learning Second Strategic Plan (2012:13) document, it was specified that the '…lack of cooperation between the universities that provide distance learning in the country has a negative effect on the provision of a suitable electronic environment that utilises the other local reserves and services provided by other universities'. Here, findings identified the negative influence of the lack of cooperation between the universities that offer DL in the country on the accessibility to a variety of electronic reserves and services provided to DL students.

Furthermore, this drew the study's attention to investigating the effect of this factor on the other dimensions.

- **Issues related to implementing criteria of sufficient technological infrastructure**: in a university bylaw that addressed the provision of an adequate technological infrastructure (Bylaw of Assigning Responsibilities for Technological Provision, 2011) it was disclosed that DDL holds full responsibility for providing an adequate technological infrastructure which includes a technical department, hardware and software, course development and training schemes. However, the archiving and restoration of the DL courses was not included in the DDL responsibilities and no indication of adequate course archiving was present as part of the technological infrastructure plan. Related to this, it was disclosed in an internal report, sent from the DDL to the university high authority that, after a full review of the DL infrastructure requirements, the university technological infrastructure has the capacity to offer DL to up to 50,000 students with well-equipped and up to date facilities (Regarding the Distance Learning Institution Capacity, 2011). In another document, however, the high dependability on outsourced companies, was described as a weakness point in the DDL internal environment (Deanship of Distance Learning Second Strategic Plan, 2012). These two pieces of evidence revealed the absence of the restoration and archiving operations from the DDL technological responsibilities and the high dependability on outsourced companies as negative factors to the implementation of sufficient technological infrastructure. Furthermore, these findings raised the need to examine the effect of the aforementioned factors on the university's ability to provide sufficient technological infrastructure.
- **Issues related to implementing criteria of efficient technical support**: in a request that was sent by the general technical support centre in the university to the technical department at DDL (Request for Staff Transfer, 2012), it was revealed that the university general technical support centre strives to cope with the inquires related to DL and skilled staff should be transferred from the DDL technical department to the university general technical support centre. Furthermore, in a document issued by DDL that addresses the provision of technical assistance to DL users (Help and Assistance Manual, 2012), it was disclosed that only two choices were provided to DL users. The first was to contact the general technical centre through the designated phone line; the second was to visit the general technical centre. The same document revealed that no technical support centre was designated to deal with DL inquiries.

These findings revealed elements of inefficient technical support which included: the need for skilled staff in the general technical support centre, the inadequate technical support times and the communication options provided to DL recipients as well as the unavailability of a designated technical support centre. Additionally, this documented evidence helped to form questions that address the influence of these previous three findings on the university's ability to implement efficient technical support.

In the same vein, but concerning the inclusion of the DL budget in the university budget cycle as part of the provision of the needed financial aid to support DL technological needs, the budget review section of the Annual Plan for the 2012 Financial Year (2012) did not refer to the inclusion of DL in the university budget cycle and no mention of DL was found in the document. This document revealed the university's failure to include the DL budget in the university's budget cycle. The consequences of the university's failure to do this provoked questions related to its impact on the implementation of adequate support for the technical infrastructure, which, in turn, may have an impact on the implementation of quality DL in the other dimensions.

III. Instructional support dimension

The review of the documents in this dimension was focused on documents related to the development process for DL courses and the provision of instructional delivery requirements.

- **Issues related to implementing criteria of efficient development process for DL courses:** in a document titled "University Procedures for the Development of E-courses" (2010) it was indicated that DL courses must be developed by means of a cooperative effort between the assigned instructor in a related department and the DDL development department, in order to develop courses that coincided with the instructors' styles. In the same document it was recommended that the outcomes of the courses should be reviewed by the course-related department to verify the course outcomes and contents. It has been specified that DL courses' outcomes should correspond with the outcomes of courses delivered traditionally. Although this document revealed features of efficient development process for DL courses that include the involvement of faculty members in the development of the DL courses and the verification of DL courses' outcomes and content by the course-related department, it is important to examine its positive/negative impact from the perspective of the administrators and faculty members.

- **Issues related to implementing criteria of adequate provision of instructional delivery requirements**: in a document titled "Mechanisms for Providing Technical Support for Distance Learning" (2011, p.6), it was stated that "…training courses for DL recipients on DL aspects are to be initiated and scheduled by the technological department in the deanship of distance learning on request from the concerned colleges". Moreover, in the DDL strategic plan, the lack of regulations that support faculty members' involvement in activities related to DL was described as a hindrance to faculty members' ability to deliver DL instructions in the country (Deanship of Distance Learning Second Strategic Plan, 2012). The evidence from these two documents indicated that training on the technical aspect of DL is provided so the means exist to implement an effective delivery process using technology, but nevertheless, it revealed lack of support for faculty members' involvement in activities related to DL, which is a downside to implementing effective delivery process using technology. This posed questions relating to the efficiency of the provided training, given the lack of cooperation between the technological department in the DDL and the DL concerned college that was documented earlier in the technological dimension. Moreover, it highlighted the need to investigate the negative impact of the lack of support for faculty members' involvement in activities related to DL on the implementation of effective delivery process using technology.

IV. Faculty members support dimension:

The review of the documents in this dimension focused on documents concerning arrangements for DL faculty members' advancement criteria and career development.

- **Issues related to implementing criteria of sufficient arrangements for faculty members' career development**: with regard to criteria of faculty members' career development, the document titled "Distance Learning: Faculty Members' Responsibilities and Duties" (2010) has a detailed DL faculty members' evaluation criteria and a recommendation of relating faculty members' performance in DL to their advancement criteria. However, in an internal report that was sent to the university high authorities titled "Regarding Faculty Members Who Teach in Distance Learning Classes" (2010, p.2), it was stated that "Distance Learning colleges that offer distance learning at the university do not apply the criteria issued by the DDL for their faculty members who are involved in distance learning due to reasons related to conflicts between the Ministry of Higher Education criteria and our recommended criteria. Please inform us with your views in this regard".

This extends to procedures for rewarding DL faculty members, as the Faculty Members' Evaluation Criteria (2010) document disclosed that faculty members are considered to be part of the college to which they belong and rewards should be based on their performance in the TL system by the college authorities. No mention of any reward system for DL was found in the document. Such evidence showed the element of insufficient arrangements for faculty members' career development which were manifested in the disregard of the recommended DL faculty members' performance criteria by the related colleges and the absence of reward for faculty members' participation in the DL field. They also raised many questions related to the impact of the DL colleges' disregard of the DDL recommendations on the faculty members' performance in DL classes and the influence of the absence of rewards for faculty members' participation in the DL field on their participation and satisfaction levels.

V. Students support dimension:

The review of the documents in this dimension was directed to documents that address enrolment procedures and accessibility to on-ground services and online testing services for DL students.

- **Issues related to implementing criteria of efficient enrolment procedures**: in the document titled the "Deanship of Distance Learning Second Strategic Plan" (2012) it was discovered that, amongst many listed weak points in the university DL system, two factors contributed to the failure to implement efficient enrolment procedures. The first was the lack of cooperation between the university departments and colleges and the second was the vagueness of the DDL role. The aforementioned document revealed negative factors to the implementation of efficient enrolment procedures and pointed out the need for further investigation on their impact on the overall efficiency of the provided student support.
- **Issues related to implementing criteria for adequate accessibility to on-ground services for DL students:** with regard to the criteria of providing adequate access to on-ground services for DL students, it was stated in the Bylaw of Issuing ID Cards for Distance Learning Students (2009, p.2) that "…distance learning students must be issued with student cards that enable them to join the library and any other on-campus service that is related to their studies".

Moreover, in an internal report titled "Regarding Cooperation Between Distance Learning Concerned Departments" (2011) it was pointed out that the lack of cooperation between DDL and the department providing student services (as a detached service from DDL) hindered the DDL efforts to provide adequate services to DL students. The first document has clearly demonstrated that DL students are offered full access to services provided to on-campus students, which revealed an aspect of accessibility to on-ground services. The second, however, has disclosed the lack of cooperation between DL services departments as a negative factor that hinders the provision of adequate student services that was revealed previously (see: Issues related to criteria of efficient enrolment procedures). Such findings provoked questions which addressed the influence of the lack of cooperation between DDL and DL service departments providing student services on the provision of accessibility to on-ground services for DL students and, most importantly, the overall impact of the lack of cooperation between the DDL and DL departments and colleges on the other dimension with its related services.

VI. Evaluation dimension

In this dimension, the review of documents was focused on documents pertinent to the evaluation scheme for DL programmes and DL students' assessment of outcomes.

- **Issues related to implementing criteria of efficient evaluation scheme for DL programmes**: The University Mechanisms and Procedures for Distance Learning Evaluation of the Educational process (2006, p.9) document stated that "…regular evaluation ought to be undertaken in a five year cycle to lead the future development to be decided upon by the Deanship of Distance Learning" .This differs from practices in the TL system in which it is recommended that evaluations ought to be undertaken annually by the departments in order to identify issues needing to be raised with the university higher authority so that they can make the required future changes (Evaluation and Assessment Plan, 2010). The TL scheme was organised to take account of procedures instituted by the MOHE to include accurately described elements of assessing curriculum, departments, faculty, students, budget and collecting regular feedback from all the involved stakeholders on the quality of the provided services and their satisfaction levels.

On the other hand, the evaluation scheme for DL was heavily dependent on reports produced by the company responsible for the evaluation process, except one recommendation of distributing satisfaction questionnaires to faculty members and students, with no defined period or pursuance procedures (The University Mechanisms and Procedures for Distance Learning Evaluation of the Educational process, 2006). In the latter document, no procedures or arrangements were in place to provide the faculty with objective feedback from students. With this in mind, these documented pieces of evidence revealed the inconsistency between the DL and TL system evaluation schemes and the inadequacy of measures to solicit feedback from DL recipients. Moreover, these findings highlighted the need for a further examination of the effects of the aforementioned factors on the implementation of an efficient evaluation scheme for DL programmes.

- **Issues related to implementing criteria of effective assessment for DL students:** with regard to implementing an effective evaluation process for DL students, the University Policy of Studying through Distance Learning (2010) document recommended that students should take a final examination that would determine 70% of their grade. The same document suggested that only 30% of the student assessment should be based on their attendance to the asynchronous DL classes, short quizzes and responses in the course forum. Although facts in this document do not contradict the aspects of an effective evaluation process for DL students, it raises questions around the methods used for assessment and types of questions used in the final examinations which would shed light on the effectiveness of the implemented assessment process for DL students.

5.2.4 The document review main findings

The review of the selected documents has enabled the study to gain a clear picture of the current situation of DL at the university and enhanced the inquiries of the other subsequent data collection techniques. It has provided initial assessment for the quality of the current DL learning and identified issues that are further investigated in the study's later stages. Therefore, the main findings of the document review are presented below in light of the issues that were identified for further investigation by the subsequent data collection techniques and, secondly, its initial assessment of the implementation of quality DL at the university.

I. Issues of inquiries identified (by the document review) for further investigation by the other data collection techniques:

- **Issues related to the institutional mission dimension**
  - The impact of the ambiguity of MOHE regulations concerning DL on the consistency of the DL regulations and DDL ability to foster collaboration between DL-related departments and colleges.
  - The influence of factors like the shortage of students and faculty members on the university's ability to found new degrees and reasons behind the inadequacy of the university's scheduling plan for DL enrolled students.
  - The impact of the unavailability of a national marketing scheme on the university marketing scheme and the university's ability to promote the awareness and importance of DL for the potential DL students and the community.
  - The influence of the lack of policies that address the acceptance of DL certificates on their recognition and accreditation in the country, compared to TL certificates.
- **Issues related to the technology dimension**
  - The importance of examining the association between the lack of cooperation between the technological department in the DDL and DL concerned departments/colleges and the university's ability to implement accessibility to DL delivery requirements.
  - The effect of the lack of cooperation between the Saudi universities that offer DL in the country on the study dimensions.
  - The effect of the absence of the restoration and archiving operations from the DDL technological responsibilities and the high dependability on outsourced companies on the university's ability to provide sufficient technological infrastructure.
  - The influence of the need for skilled staff in the general technical support centre, the inadequate technical support times and communication options provided to DL recipients and the unavailability of a designated technical support centre on the university's ability to implement efficient technical support.
  - The impact of the university's failure to include a DL budget in the university budget cycle on the implementation of adequate support for the technical infrastructure and the implementation of quality DL in the other dimensions.

- **Issues related to the instructional support dimension**
  - Exploring the administrators' and faculty members' views on the involvement of faculty members in the development of the DL courses and the verification of DL course outcomes and content by the course-related department.
  - Examining the adequacy of the provided training to DL recipients.
  - The impact of the lack of support for faculty members' involvement in activities related to DL on the implementation of an effective delivery process using technology.
- **Issues related to the faculty support dimension**
  - The impact of the DL colleges' disregard for the DDL recommendations on the faculty members' performance in DL classes.
  - The influence of the absence of rewards for faculty members' participation in the DL field on their participation and satisfaction levels.
- **Issues related to the student support dimension**
  - The impact of the lack of cooperation between the university departments and colleges and the vagueness of the DDL role on the overall efficiency of the provided student support.
  - The influence of the lack of cooperation between DDL and the department providing student services on the provision of accessibility to on-ground services to DL students and, most importantly, the overall impact of the lack of cooperation between the DDL and DL departments and colleges on the other dimensions with their related services.
- **Issues related to the evaluation dimension**
  - The effect of the inconsistency between the DL and TL system evaluation schemes and the inadequacy of the methods for seeking feedback from DL recipients on the implementation of the evaluation scheme for DL programmes.
  - Examining the adequacy of the used methods to assess student outcomes and types of questions used in the final examinations.

II. The initial assessment (by the document review) of the current implementation of criteria of quality DL at the university revealed 12 negative factors:

- Lack of sufficient authority.
- Inadequate course scheduling and provision of the needed DL programmes/degrees.
- Inadequate marketing plan for DL.

- Inadequate equivalency to TL.
- Inadequate accessibility to DL delivery requirements.
- Insufficient technological infrastructure.
- Inefficient technical support.
- Insufficient provision of instructional delivery requirements.
- Insufficient arrangements for DL faculty members' career development.
- Inefficient student enrolment procedures.
- Inadequate accessibility to on-ground services for DL students.
- Inefficient evaluation scheme for DL programmes.

5.3 SEMI-STRUCTURED INTERVIEWS

Semi-structured interviews were conducted with administrators and faculty members to assess the implementation of criteria of quality DL (based on the study evaluative framework: see section 2.6) and to identify barriers that face the implementation of quality DL from both perspectives (for more information about the semi-structured interviews see 'the interviews' in section IV). The semi-structured questions were focused on six dimensions as follows:

I. Institutional mission dimension:

Questions in this dimension addressed key issues of implementing quality criteria related to sufficient authority, adequate DL course scheduling and the provision of the needed DL programmes/degrees, adequate marketing plans for DL and DL equivalency to TL.

II. Technology dimension:

In the technological dimension questions focused on assessing the implementation of criteria of quality with regard to: accessibility to DL delivery requirements, sufficient technological infrastructure and efficient technical support.

III. Instructional support dimension:

Related to the instructional process, questions focused on assessing the quality criteria related to the implementation of an efficient development process for DL courses and sufficient provision of instructional delivery requirements.

IV. Faculty support dimension:

In this dimension, questions addressed issues related to criteria of quality implementation of sufficient arrangements for faculty members' career development.

V. Student support dimension:

In the student support dimension questions focused on assessing the implementation of quality criteria concerning the efficiency of the DL student enrolment procedures and the adequacy of the accessibility to on-ground and online testing services for DL students.

VI. Evaluation and assessment dimension:

Interview questions in this dimension focused on assessing the implementation of quality DL criteria related to the university evaluation scheme of the DL programme and the effectiveness of the assessment process for DL students.

For more details of the administrators' and faculty members' interview schedules please see Appendices 3 and 4 respectively.

5.3.1 Participants' profile

To help create an understanding of the context in which the interviews were conducted, information regarding the participants' positions and occupancy are provided in Table 5.1. Codes for faculty members are demonstrated in the Table. However, administrators will be referred to as AD1, AD2, AD3, AD4, AD5, AD6 and AD7 in the quotations for confidentiality reasons as they can easily be identified if more information with regard to their positions was revealed to the readers. The sample of the interviews consisted of seven administrators, eight male faculty members and eight female faculty members from the university's four different colleges.

Table 5.1: Interviews participants' profile

	Administrators' participants	Associated codes	Faculty members' participants	Associated codes
1	Dean of the Deanship of Distance Learning.	AD	Male faculty member from college 1 (Director).	M1
2	The Vice Dean for Development.	AD	Female faculty member from college 1 (Director).	F1
3	The Vice Dean for Educational Affairs.	AD	Male faculty member from college 1.	M11
4	The Vice Dean for Technical Affairs.	AD	Female faculty member from college 1.	F11
5	The Vice Dean for Girls' Campus.	AD	Male faculty member from college 2 (Director).	M2
6	The Head of Educational Programmes Department (Boys' Section).	AD	Female faculty member from college 2 (Director).	F2
7	The Head of Educational Programmes Department (Girls' Section).	AD	Male faculty member from college 2.	M22
8			Female faculty member from college 2.	F22
9			Male faculty member from college 3 (Director).	M3
10			Female faculty member from college 3 (Director).	F3
11			Male faculty member from college 3.	M33
12			Female faculty member from college 3.	F33
13			Male faculty member from college 4 (Director).	M4
14			Female faculty member from college 4 (Director).	F4
15			Male faculty member from college 4.	M44
16			Female faculty member from college 4.	F44

5.3.2 Method of analysis

The study used qualitative thematic analysis procedures to analyse data collected from the interviews. As suggested by Glaser and Strauss (2009), the procedure of thematic analysis was started by assigning codes to units of data holding the same descriptive or conceptual sense in order to organise and structure the collected rough data (coding process). Relevant codes were grouped into categories which resulted in 42 codes associated with 14 subcategories and six main categories (see Table 5.2).

Table 5.2: The resulted categories and codes

Main Categories	Subcategories	Codes
Institutional mission.	Sufficient authority	Consistency: Collaboration
	DL courses scheduling and provision of the needed DL programmes/degrees	Scheduling: Degrees
	DL Marketing plan	Importance: Requirements
	DL equivalency to TL	Certificates: Accreditation: Programmatic requirements
Technology	Accessibility to DL Delivery requirements	Accessibility: Integration: Electronic reserves: synchronous ability: Manageability
	Sufficient technological infrastructure	Adequate technology: efficient delivery
	Technical support	Technical support centre;: Staff training;: Communication options: Budget cycle
Instructional support	Development processes	Suitable Technology: Faculty engagement: Faculty training, assistance, time: Institutional standard: Outcomes verification
	Instructional delivery requirements	Scheduled training: Faculty activities: Timely response: Applied synchronicity
Faculty support	Career development - rewards	Participation and reward: Advancement criteria
Student support	Enrolment procedures	Registration: Information available: Induction
	On-ground services and online testing	Professional development: Testing services: Student services
Evaluation.	Evaluation scheme	Regularity and Consistency: Feedback: Future improvements
	Students' evaluations	Assessment methods: Final examination

As suggested by Saunders, Lewis and Thornhill (2009) the use of terms used in the literature were employed to label the emerged themes. This is to say that the study used the terms in its evaluative framework (see section 2.6) which was deductively built from the literature to categorise the merged themes.

Moreover, Miles and Huberman (1994) Network Display Technique was utilised to display relationships between codes and categories to reduce the data into manageable and comprehensible form and show the level of data saturation. During the coding process, codes were rearranged, divided or merged in the light of the emergent data. The final network is demonstrated in Figure 5.1 which shows the study saturation level where no more codes emerged.

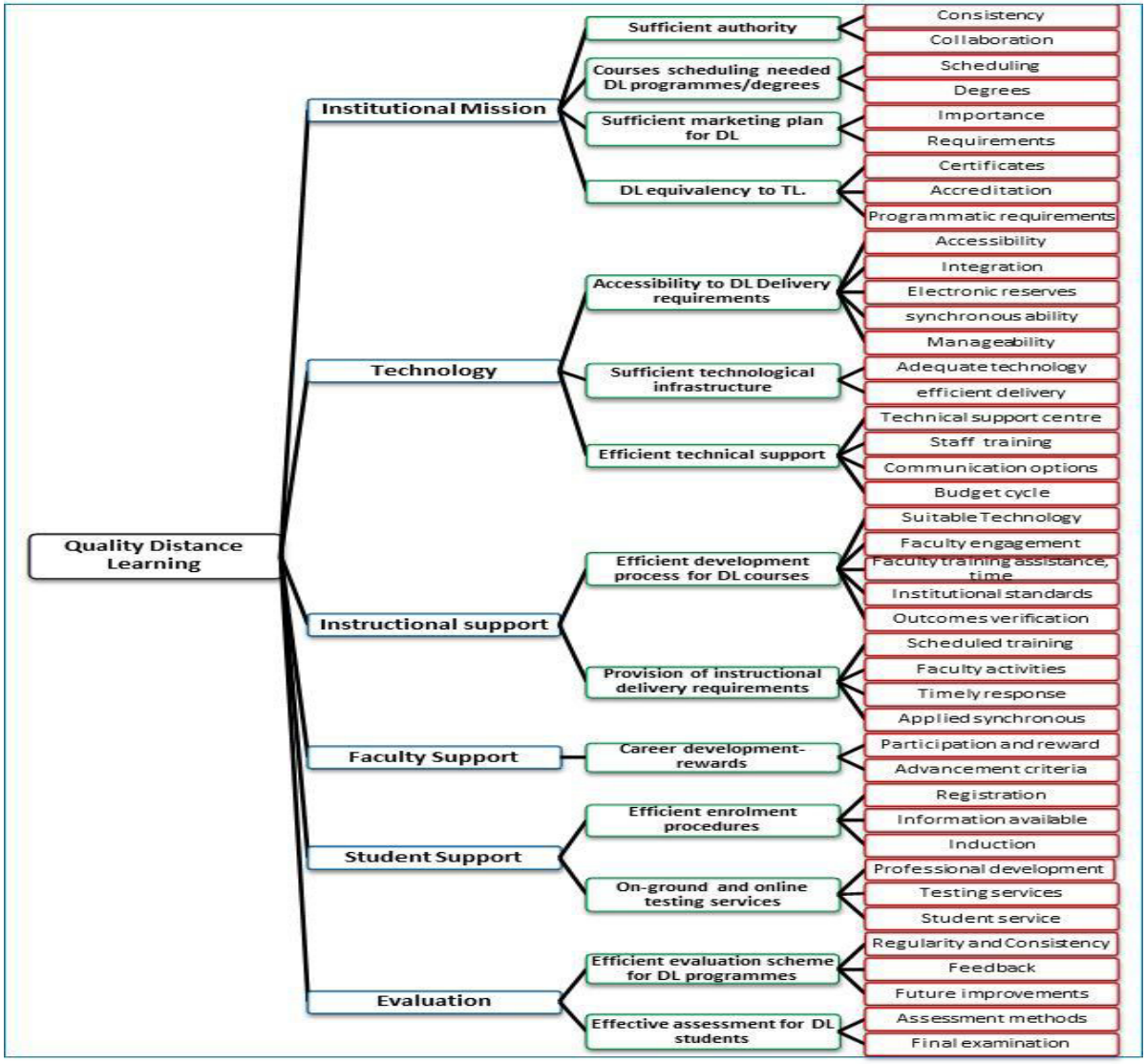

Figure 5.1: Network display technique shows codes and their relation to their sub- and main categories

The study used the Pattern Matching procedure suggested by Yin (2003) to predict the expected outcomes. The Pattern Matching procedure enables the researcher to test the capacity of the study's analytical framework to explain the findings. It is based on comparing and contrasting the collected data and the expected results during data collection based on the study's initial framework (whether the collected data fitted into the study framework or if it produced expected patterns).

The study's analytical framework proved to be adequate in explaining the findings as the pattern of the data matched what had been predicted through the study conceptual framework, which promotes the trustworthiness of the study conclusions.

After transcribing audio-recorded interviews, notes that were taken during each interview were attached to the interview and each interview was saved in a separate file. Interim summaries were used to assess progress of the analysis alongside self-memos to highlight the researcher's thoughts which helped him to integrate ideas, develop and enhance the emergent themes and conclusions. The study allowed enough time between the interviews to start to analyse the collected data during the data collection period and this continued afterwards.

5.3.3 The interviews' results

Findings from the interviews are divided into two sections: the administrators' interviews and the faculty members' interviews. Findings are presented within a framework of the six dimensions of the criteria of the implementation of quality DL.

I. Administrators' interview results

In this section the administrators' interview results are presented in relation to the criteria of the implementation of quality DL with regard to each of the six dimensions proposed by the study and its associated subcategories (see the study framework: Chapter II):

a. Institutional mission dimension:

To assess the implementation of the criteria of quality DL with regard to the institutional mission at the university, administrators were asked questions that addressed key issues of implementing sufficient authority, adequate DL course scheduling and provision of the needed DL programmes/degrees, adequate marketing plans for DL and DL equivalency to TL, all of which will be addressed respectively. For the interview schedule see Appendix 5.

- **Criteria of sufficient authority**: in response to the question which addressed the university's arrangements to apply consistency across all forms of instructions/regulations, AD1 stated, "*The DDL department's main aim is to be the centre of regulation that govern DL in the university*". Similar to AD1, the DDL aim was acknowledged by AD2, AD5 and AD7 who further added, "*The establishment of the DDL was intended to solidify roles and rules in order to dismiss any inconsistency of decisions and regulations that are made by the different DL departments*".

However, conformity between the views of AD1, AD2, AD5 and AD6 revealed the DDL's failure to achieve this main aim. Administrator AD1 ascribed this to the vagueness of the DDL role, "*We have a supervisory mission with no executive power… if we are responsible for the implementation then our role and authority should be clearly defined by the university"* and AD6 highlighted the fact that, *"the conflict between regulations introduced by DDL and DL colleges originated from the fact that DL colleges are applying MOHE regulations that were originally directed towards the TL system which is confusing to apply to DL".* This, according to AD3 and AD7, tends to impact negatively on the cooperation between DL colleges and service departments which was demonstrated by AD7, *"We do our best to build bridges between DL service departments to enforce cooperation, but, with no clear DDL role and regulations introduced by the MOHE, I think meaningful cooperation is hard to obtain*".

Therefore, it can be concluded from the presented administrators' views, that they acknowledge that the university was not able to implement successfully sufficient authority which can be seen in the inconsistency of the DL regulations and the lack of collaboration between DL related departments and colleges. The ambiguity of MOHE regulations and the vagueness of the DDL role were hindrances pinpointed by the administration interviewees.

- **Criteria of adequate courses, scheduling and provision of the needed DL programmes/degrees**: aside from the equivocal views of AD2 and AD5, administrators AD1 and AD6 were confident about the consistency of the current courses scheduling plan for all enrolled DL students. AD6 revealed that, "*…essential part of the educational department's job is to make sure that all DL courses are scheduled for all DL enrolled students…we make sure courses are consistent and, at the end of each academic year, a report should be delivered to the related departments with the scheduled courses for the next academic year*".

  Moreover, in response to a question that addressed the university's ability to found new DL programmes/degrees to meet community needs, AD2 and AD7 agreed that the shortage of registered students and DL faculty members hinders the university's ambition to found new programmes/degrees. In this regard AD7 stated, " *I advocated opening new degrees, the problem is existing degrees are not receiving enough students nor do we have enough faculty to teach in DL classes which makes opening a new degree a bit risky*".

Parallel views were expressed by AD1, AD5 and AD3 but they pinpointed the great scrutiny associated with acquiring the needed funds for DL as the reason behind the university's inability to found new degrees, AD1 explained *"the university recognises that new degrees must be opened… it's much harder to justify any spending regarding DL as it undergoes prolonged and harsh scrutiny compared to TL"*.

Given the aforementioned administrators' views, it seems that the university has provided consistent scheduled courses for the degrees of all enrolled students but, nevertheless, they recognise the university's failure in founding new DL degrees that meet the community needs. This was, according to the administrators, due to the shortage of registered students and faculty members and the great scrutiny associated with acquiring the needed funds for DL.

- **Criteria of efficient marketing plan for DL**: in his view, AD1 sees that the university has successfully implemented a marketing plan that promotes the importance of DL and emphasises students' requirements and expectations. He explained his position by stating, " *Advertisements based on the students' experiences were put on the university website to emphasise the importance of DL to the community…information on the DL learning requirements and expectations can be easily found on the university website*". This view was opposed by AD2, AD3 and AD6 who continued to associate the shortage of students to the university's failure to implement an efficient marketing plan, "*from my point of view I don't see a successful marketing plan… DL is seen by DL students as inferior to TL while it should be introduced as a new educational system with its own merits. Little advertisements scattered around the university website is not marketing…the university rules downgrade the importance of DL… the marketing plan must be comprehensive and take into account promoting the importance of DL in all aspects … no wonder we suffer from a shortage of students… no good marketing plan means: no attraction, no students, period*".

  Here, AD2 and AD7 put forward the unavailability of a national marketing plan as a barrier that faces implementing an efficient marketing plan. AD7 stated, "*Universities can't work individually. This explains why Saudi Universities usually attract their own associated students…there must be a collaborative work organised by the MOHE… a national marketing plan is, in my view, a necessity for a marketing scheme in any university to work*".

From the aforementioned administrators' views, it seems that the university has failed to implement an adequate marketing scheme which was associated by an administrator with the shortage of registered students. Despite AD1's view, the majority of administrators revealed the university's inability to implement a marketing plan that promotes the importance of DL and emphasises students' requirements and expectations. The unavailability of a national marketing plan was cited by administrators as a barrier to the implementation of an efficient marketing plan at the university.

- **Criteria of DL equivalency to TL**: In response to a question which addressed the university's arrangements to implement the same TL programmatic requirements to DL, it was stressed by AD1 that, "*DL modules are definitely equivalent to TL in their associated outcomes, content and credits ... in accordance with the MOHE regulations all DL modules are verified by the related department to insure their equivalency in all matters*". Similarly, the views of AD2 and AD6 corresponded with the previous view and AD6 added that, "*to promote the effectiveness of the DL programmes, in all departments and majors, DL modules are literally the same as TL modules*".

  Regarding the university's ability to promote recognition and accreditation of the DL certificate, a collective agreement on the university's inability to do this was evident. AD6 highlighted the lack of communication and coordination between the MOHE and the MOCS as a barrier to promoting recognition and accreditation to the DL certificate by stating, "*the university as a small entity compared to MOHE can't do a lot…the value that DL certificates hold is undervalued because of the huge lack of coordination between the Ministry of Civil Services (MOCS) and MOHE*". A similar statement was strongly expressed by AD7, *"The university's efforts in this matter can't be effective unless two factors are eliminated, first the MOHE's inability to promote the value of DL outputs and secondly, the MOCS unfamiliarity with the DL certificates in the job market in the country… to do this, simple communication between these two ministries can solve the problem*".

  In light of the administrators' responses, it can be concluded that they see that the university was able to apply the same programmatic requirements to DL (with regards to modules and outcomes) but nevertheless, they revealed the lack of recognition and accreditation of DL certificates.

The lack of communication and coordination between the MOHE and the MOCS was expressed by administrators as a barrier to promoting recognition and accreditation to the DL certificate.

b. Technology dimension:

To assess the implementation of the criteria of quality DL with regard to the technological aspects of DL at the university, administrators were asked questions that were centred around the implementation of accessibility to DL delivery requirements, sufficient technological infrastructure and efficient technical support, which will be addressed respectively. For the interview schedule see Appendix 5.

- **Criteria of accessibility to DL delivery requirements**: the university's ability to implement adequate accessibility to DL delivery requirements was expressed by AD4, "*the university uses three applications to grant DL recipients and administrators adequate access to the DL system…EMES, the course management system to enable students and faculty members to access DL materials that do not require synchronous contact…CENTRA to provide a high level of synchronous connection between faculty members and students…ODUS to provide faculty members and students with access to management systems which is shared with the administrators in DDL*". He continued, "*All these applications are designed by well-known companies and at high accessibility and manageability standards…checking for the programmes' compatibility and accessibility of the applications are carried out by the DDL technical department*". AD4's view of the applications' accessibility, manageability and the adequacy of the provided synchronous communication was supported by AD2, AD3, and AD6 who revealed that, "*DL applications are designed to provide a high level of synchronous communication and accessibility… we have a designated department to review DL applications in order to guarantee they meet the recipient's needs and solve any problems related to the DL app's usability*'.

  Conversely, the absence of the application's ability to integrate across different DL service departments was expressed by AD1, AD3 and AD5. AD1 highlighted the vagueness of the DDL role and the lack of cooperation between DL concerned departments and colleges as obstacles to the integration, "*The collaboration between the technical department and other concerned departments is mostly absent…it's important to solidify the DDL role and strengthen its authority to overcome problems associated with lack of cooperation, otherwise every department will be working on its own which is what is actually happening and has affected integration from every aspect*".

This view was supported by AD4 who further stressed the lack of cooperation between DL related departments, "*DL students are not able to access some related departments' applications through any of the DDL applications because each department is using its own application to provide its services…if we can enforce cooperation between DL related departments and colleges we would be able to unify access through one application to be recognised by all DL service departments and colleges*".

In response to a question which addressed the provision of access to a variety of electronic reserves (through regional college partnership), AD1 stated, "*The thing is, no regulations have addressed organising universities' regional partnerships in the country which is part of the MOHE mission…students have access to the university electronic reserve which is linked to some international electronic reserves, but in the national or regional arena, unfortunately, no*". The same view was evident in the views of AD2 and AD7 who added, "*...it's not KAU, at the moment; most Saudi universities can't apply any form of partnership that allows their students to access other universities' digital libraries as MOHE policies do not support this kind of partnership"*.

Therefore, it can be concluded that administrators seem to view the accessibility and manageability of the provided synchronous communication as adequate. However, they recognise the absence of the integration between DL application and the inaccessibility to a variety of electronic reserves through university partnership. Barriers that face the implementation of accessibility to DL delivery requirements were highlighted by administrators to include: the vagueness of the DDL role, the lack of cooperation between DL related departments and colleges and the unavailability of regulations that encourage regional college relationships.

- **Criteria of sufficient technological infrastructure:** collective agreement was expressed regarding the capacity of the network infrastructure to deliver DL classes efficiently, an example can be clearly demonstrated in AD1's response, who highlighted the huge financial resources invested in supporting the DL network and technical infrastructure, *"In 2010, more than 20 million Saudi Riyals were invested in improving the university technological infrastructure alone… the university network infrastructure is geared to provide services for more than 50,000 students with the latest hardware and software while we only got less than 2,000 students*".

Similar views were expressed by AD2 and AD4 to indicate the efficiency of the network infrastructure. AD4 added that "*DDL has made big contracts with the best companies in the field to provide the university with the latest hardware and software which include huge network capacity and maintenance*".

In response to a question that addressed arrangements in place to guarantee adequate technology (software and hardware) and arrangements to develop, archive and restore DL courses from semester to semester, AD4 explained, "*The development and archive process of the DL courses is conducted by well-known outsourcing companies through contracts to be renewed each year after an evaluation process by the technology department*". Commenting on the process of the courses' development, he added "*courses are sent to the company to be developed by their experts in the educational technology field then to be evaluated by the related DL college and finally approved by our department*". Similar statements were revealed by AD2 and AD7 who added, "*Our development labs are facilitated with the latest software and hardware to make sure the design of the DL courses are of a high standard*" which was echoed by AD3 and AD5. However, AD2, AD3 and AD4 revealed that the technical department struggles to perform its tasks of archiving and developing DL courses successfully, due to the disorganised efforts of many contracted companies which was clarified in AD4's statement, "*It's not applicable for the technical department to supervise and coordinate efforts of many contracted companies … some companies do not complete their contracts and leave the work to other companies… sometimes we struggle to restore a course as the archiving system has to be updated or changed due to problems with contracted companies. I think it's a drainage of resources*".

This view was elaborated by AD2 who continued to provide a solution. "*I spent more than ten years in this field and the problem of the contracted company has never disappeared… authorities at the university must apply the Saudization plan to be independent… signing contracts with many companies costs lots of money and has never been a solution… the same amount of money or maybe less can help employ many Saudi experts to be the core of a designated development department in the university… I guarantee this will provide sustainability not to mention how it can erase many of the existing problems*". Here it is worth mentioning that the Saudization plan is a scheme that was introduced by the Saudi government in 2006 to employ the growing numbers of unemployed skilled Saudi citizens. It is based on the notion that foreign workers must be replaced by Saudi citizens who have the required skills (Fakeeh, 2009).

From the aforementioned administrators' responses with regard to implementing efficient technological infrastructure, it can be said that, although an adequate network infrastructure and technology were available to deliver DL classes and develop, archive and restore DL, the inefficient plans to fund and organise the courses' development and restoration process and the high dependability on outsourced companies was seen by administrators as a hindrance to the implementation of efficient technological infrastructure. The Saudization plan was proposed by an administrator to solve the problem related to the insufficient plans to fund and organise the courses' development and restoration process and the high dependability on outsourced companies.

- **Criteria of efficient technical support:** agreement on the inefficiency of the current technical support centre was a common theme in the interviews with AD1, AD2, AD4 and AD5 and the need for a designated technical support centre was demonstrably expressed by AD2 and administrator AD4 who stated, "*to my knowledge all DL institutions must have a designated DL technical support centre. There is no way that DL recipients can be dealt with by an on-campus general support centre… I received many complaints and inshallah a separate DL technical support will see the light".*

  Related to the inefficiency of the technical support provided, administrators AD3, AD6 and AD7 revealed concerns about the current technical support times and communication options provided for DL recipients. AD6 summed it up by saying, "*The general technical centre is designed to respond to on-campus student inquiries, they don't work outside normal working hours, they are not familiar with DL inquiries and it takes time to respond to emails as they usually refer to the technological department at DDL most of the time…in some cases they require the presence of the complainant which makes DL students feel they are not receiving the support they need at the time when they need it".*

  On the other hand, training personnel/staff as part of the support provided to the university technical infrastructure was deemed by AD1, AD2, AD5 and AD4 as inadequate as staff in the general technical centre are not receiving training on the DL aspects. Administrator AD4 clarified this by saying "*I am not saying the general technical support centre staff are not qualified, but its staff are not trained to solve DL recipients' problems. Training on the DL technological problems that face distant students must be offered by the university by their technical support centre staff to enable them to respond to DL inquiries*".

In response to a question regarding the inclusion of the DL budget in the university budget cycle, AD1 and AD2 revealed that the DL budget is not included in the university budget cycle and referred to the unavailability of MOHE regulations that address the DL budget, as a barrier to providing support for the DL technological infrastructure. According to AD1, "*Given the constant changes in DL, we annually assess our budget in order to identify any surplus or needs because we are not considered a part of the university budget cycle… yet no regulation has been introduced regarding the DL budget. When DL needs are requested from the university budget, they have to undergo great scrutiny and prolonged procedures which, on many occasions, obstruct the DDL's ability to apply or implement development to support the DL infrastructure"*.

It can be drawn from the administrators' views, that, although the university invested huge financial resources in its technical infrastructure, they see that it has failed to implement efficient technical support due to the inadequacy of the training provided for the personnel in the general support centre, the inadequacy of the provided technical support times and the communication options for DL recipients as well as the university's failure to include the DL budget in the university budget cycle. The unavailability of a designated technical support centre and the unavailability of any MOHE regulation that addresses the DL budget were pinpointed by the administrators as barriers to the implementation of adequate technical support.

c. Instructional support dimension:

To assess the implementation of criteria of quality DL with regard to instructional support at the university, questions to administrators focused on the implementation of efficient development processes for DL courses and adequate provision of instructional delivery requirements using technology which are addressed respectively. For the interview schedule, see Appendix 5.

- **Criteria of efficient development process for DL courses:** as part of the efficient development process for DL courses, the use of technology that meets the course needs was emphasised by AD1 who said *"the process of the development of the DL courses undergoes many levels of assessment. One important level is to assess the technological aids' adherence to the course's requirements and purposes ...the assessment is conducted by experts in the development company then it is further assessed by our technological department*".

Similarly, AD2 and AD4 were confident about the use of suitable technology for each course. AD4 added "D*epending on the nature of the course our experts recommend the suitable technology*". In response to a question addressing faculty members' adequate training, assistance and time to develop DL courses, AD1 demonstrated an interesting view by stating, "*Faculty members are encouraged to use their teaching experience in instructing DL students rather than engaging in the development process of DL courses ... with our high standards designed courses, I think the development of DL classes might put more burden on faculty members' shoulders notwithstanding the time and effort required for the training associated with designing the courses and assistance which will be a burden on both sides, us and the faculty members themselves*". Interestingly, in agreement with AD1's view, AD3 and AD6 were advocating the use of experts to develop DL courses and AD6 clarified, "*Most faculty members are not acquainted with the technology associated with DL, it takes so much effort and time to raise their skills to the required level and probably they would appreciate more time to focus on their teaching*".

From the previous views of AD1, AD3 and AD6, it can be inferred that faculty members do not have the freedom to develop DL courses to coincide with their teaching styles as their involvement in the development process seems to be absent. AD7's comments on this issue agreed with the inferred argument in stating the opposite of what should be the case according to the successful implementation of an efficient development process, "*Our DL courses are designed thoroughly with care in every detail of high standards. Actually it helps to optimise the instructor teaching style to the highest standards*".

Regarding the consistency of the courses' development standards, AD4 revealed that, "*we instruct the course developing contractors to apply our institutional standards, which are produced by our technological department, so features of the design, interface and tools of all DL courses must be consistent, as a final assessment by our development department for consistency and compatibility takes place for the developed course to be finally approved*". Parallel to AD4's view, a shared agreement on the consistency of the applied institutional standards was expressed in the interviews with AD1 and AD2.

Finally, the equivalency of DL outcomes to TL outcomes and the adequacy of its verification process was revealed in all the administrators' responses. AD1 stressed *"DL modules are definitely equivalent to TL in their associated outcomes, content and credits… in accordance with the MOHE regulations, all DL modules are verified by their related departments to insure their equivalency in all matters…*"

In light of the administrators' views regarding the implementation of an efficient development process for DL courses, it appears that they assume that the university was able to use the technology that meets the courses' needs and apply institutional standards that are consistent in all the developed DL learning materials. Moreover, they see the university has successfully implemented measures to make sure that DL outcomes and content are parallel to TL by verifying them with their related department (college). A contributor to the later success was suggested by an administrator to be the clarity of the MOHE regulation in this matter. However, their views indicated a lack of freedom and an unavailability of training, assistance and time provided to faculty members to develop DL courses to coincide with their teaching styles. Accordingly, it can be suggested that, from the administration point of view, the university has partially implemented the efficient development process for DL courses.

- **Criteria of adequate provision of instructional delivery requirements:** as a part of ensuring sufficient provision of instructional requirements, the provision of scheduled training for students and faculty members on the technological aspect of DL was seen by AD6 and AD4 as inadequate. AD4 has put the blame on the lack of cooperation between DL related colleges and explained, *"We provide a manual for all the applications used in DL, but more training courses for DL technological aspects and requirements are necessary... the problem is that we depend on DL related colleges to request such training so we can schedule and arrange it for them. Unfortunately DL related colleges are not cooperating in this matter and it seems that they are more concerned with training courses associated with TL*". In parallel with this view, AD7 put forward the ambiguity of the regulations introduced by MOHE to organise DL, as a barrier to the provision of adequate training by saying, "*DL related colleges are governed by the university higher authorities which are guided by the MOHE regulations that are quite vague when it comes to DL … DL related colleges are more or less TL colleges, if no regulations are clearly stating that training should be provided for DL students and faculty. These colleges will not acknowledge the need for training for DL recipients*".

  Regarding the provision of support for faculty members' activities related to DL methods and instruction, AD5 stated, "*We at DDL encourage any activity related to DL methods and technology conducted by faculty members and recommend rewards for such activities, yet DL colleges don't recognise our recommendations*".

His view was supported by AD2 and AD6 who again brought the ambiguity of MOHE that organises DL to the surface, "*I can't blame DL colleges for not rewarding or supporting faculty members' activities in the DL field. When there are no clear DL policies that address rewarding DL faculty members, their college will find it hard to justify any spending or promotions granted to any DL faculty member*".

In response to a question that addressed faculty members' early responses to student enquiries, assignment tests grades and the application of high levels of synchronous communication, AD1, AD2 and AD5 revealed a common theme of barriers that face the implementation of an effective delivery process using technology in this matter which again included issues of ambiguous MOHE regulations, vagueness of the DDL role, lack of cooperation between DL related colleges and DDL and the inferiority of the DDL authority. This was clearly depicted in AD1's statement, "*Yes, as I said before when you asked me about the DDL role… MOHE regulations don't address clearly any of what you mentioned. The thing is, we can use our expertise to tackle this by recommending solutions which address these issues …the DDL role here is undermined by the conflict between MOHE regulations and ours…they cooperate when it is in compliance with MOHE regulations, any conflict or foreseen burden on them will stop them cooperating…we recommended at least 25% of synchronous attendance and faculty member participation and responses to DL students to be part of faculty member performance criteria, but, unfortunately this wasn't applied …it is no wonder that, based on our last records, most synchronous classes were recorded and many issues of delay in grading and responses to students were common practice".*

Therefore, it can be concluded that the administrators see that the university has failed to implement sufficient provision for instruction in all aspects, due to its inability to provide scheduled training courses for DL technological aspects for faculty members and students, lack of support for faculty members' activities related to DL methods and instruction, the inadequacy of faculty members' responses to student enquiries, assignments and test grades and the inadequacy of the applied level of synchronous communication. Barriers suggested by administrators to the implementation of sufficient provision of instructional requirements, included the ambiguity of MOHE regulations that organise DL in the country, lack of cooperation between DL related colleges and the vagueness of the DDL role.

d. Faculty support dimension

To assess the implementation of criteria of quality DL with regard to faculty support at the university, questions to administrators have addressed the aspects of implementing sufficient arrangements for DL faculty members' career development. For the interview schedule see Appendix 5.

- **Criteria of sufficient arrangements for DL faculty members' career development:** concerning arrangements to promote faculty members' participation in the DL field by rewarding and attaching it to their advancement criteria, AD6 commented, "*We acknowledge the need for motivation for faculty members who choose to be involved in DL. Unfortunately, despite our efforts in putting forward criteria for rewarding faculty members in the field of DL, which included financial rewards and promotions, these criteria were not implemented by the DL concerned colleges".* He continued to point out the impact of the unavailability of a MOHE regulation that addresses faculty member rewards in the DL field, "F*aculty members' rewards are associated with their participation in TL. I think the MOHE regulations must be adjusted to include DL participation*". In agreement with AD6, administrators AD1 and AD2 added another barrier to the implementation. AD1 described it as "*the absence of the DL budget. Simply, if we had our own budget, we would easily manage to, at least, implement financial rewards for faculty members…DL related colleges have their annual budget which doesn't justify any spending on DL. We, on the other hand, who are given the harsh scrutiny associated with spending on DL, find it difficult to justify a request for more money from the university general budget especially with the exclusion of the DL budget from the university budget cycle*".

  Taking into consideration the previous views, it appears that the administrators perceive the implementation of arrangements for DL faculty members' career development as insufficient. This was demonstrated in the interviewees' views which revealed that faculty members' participation and innovation in the DL field are not rewarded and their advancement criteria are not attached to their performance in the DL field. The unavailability of MOHE regulations that address rewarding faculty members in the DL field and the absence of a DL budget in the university budget cycle seem to construct barriers to implementing sufficient arrangements for DL faculty members' career development.

e. Student support dimension

To assess the implementation of criteria of quality DL with regard to student support at the university, questions to administrators were centred around the implementation of efficient enrolment procedures and adequate accessibility to on-ground and online testing services for DL students, which are addressed in order. For the interview schedule see Appendix 5.

- **Criteria of efficient enrolment procedures**: concerning the university's ability to implement a fully online registration process, AD1 commented, "*I can't say that all DL students can register online…some colleges have their own procedures that require a student's presence*". He continued to associate the university's inability to implement fully online registration with the inconsistency of the regulations when it comes to DL, by stating, "*Unlike TL, DL in the concerned DL colleges do not follow consistent rules, every college applies its own procedures…actually this contradicts the main aim of DDL where it should be the centre of all regulation… I think the unavailability of online full registration might be a reason behind the shortage of registered students that we suffer from*". Similarly, AD3 and AD7 addressed the inconsistency of DL regulation as a barrier and AD7 restated the vagueness of the DDL that was addressed earlier in the instructional dimension, "*The process of online registration is really confusing. In TL there is a department responsible for registration…DDL must have adequate authority and a clear role to play as the centre for all DL operations, which include DL registration as it is an essential part of its organising mission*".

  In response to the question addressing the adequacy of the provided information on the university website and the availability of training courses for new students, AD1 was confident about the adequacy of the information. He asserted, "*All the information that is needed for our DL students can be found on the university website… they are accessible to all DL students*". However, he viewed the need for training courses for new DL students as unnecessary given the available information on the university website, "*All the information that is needed for our DL students can be found on the university website… provision of training on information that is already available is not necessary"*. Although AD2 and AD4 agreed with AD1's view on the availability of adequate information on the university website, they disagreed with AD1's dismissal of the need for training for new DL students.

AD4 stated, *"Training for new students must be available… some DL students may find it difficult to go through the website roaming for information… I think an induction application or even practical training once or twice a year is important*".

The previous view of AD4 was also adopted by AD6 and AD7, who pinpointed the absence of collaboration between DL concerned colleges as a barrier to the provision of the needed training for new DL students. AD7 commented, "*New DL students need training. It's a new system in the country and has its different requirements and policies…the problem is, DL concerned colleges don't cooperate and communicate the students' needs for training that address policies and requirements of DL to the DDL. Although I know new students need it, as I preside over the… I didn't receive any request in this regard from any DL college".*

Although administrators view the provided information on the university website as adequate, they see that the university has failed to implement efficient enrolment procedures due to its inability to implement fully online registration and provide training for new DL students about DL policies, guidelines and requirements. The lack of cooperation between DL related colleges, the inconsistency of DL regulation and the vagueness of the DDL role were revealed by administrators as obstacles to the implementation of efficient enrolment procedures.

- **Criteria of adequate accessibility to on-ground and online testing services for DL students**: according to AD1, access to the library and activities related to career and professional development are provided to all DL students, "*All our DL students are provided with full access to on-campus services which include, but are not limited to, library access and activities related to professional development*". Here, AD2, AD5 and AD6 agreed on the adequacy of the access to the on-ground services, however they highlighted issues of lack of cooperation between DL colleges to hindering the provision of access to activities related to career and professional development. AD6 commented, "*Despite teaching the same DL programmes to their DL students, some DL colleges don't announce their career and professional programmes or activities to their DL students nor to the DDL, so their adverts don't go beyond their classes or emails to their TL students… such announcements should be communicated to the DDL in order to be disseminated to DL students as part of the collaboration plan that is supposed to be in place".*

Regarding the efficiency of the provided online testing service for DL students, AD4 revealed, "*the online testing service is provided via EMES which works on a high capacity server to guarantee that no students with low speed connections are left behind and the faculty are able to perform their grading promptly with no delay because online testing time is important*".

Similarly, AD1 and AD2 were confident about the university testing services' efficiency to accommodate DL recipients' needs. This was put confidently by AD1, "*The university network infrastructure can serve much bigger numbers than the number of the enrolled students, so I think the provided testing service should be more than adequate*".

In response to a question which addressed the recognition and responses to DL students' needs through collaboration between the students' service department and other services departments, collective agreement amongst the interviewees indicated the absence of collaboration between the students' service department and other departments. This was seen as due to a lack of cooperation between the DL service departments. The previous view was put demonstrably by AD7 who summarised it by saying, "*The biggest barrier that faces DL in the university is the lack of cooperation between DL concerned departments which include DL colleges… the student services are part and parcel of the problem, absence of cooperation means absence of communication and eventually absence of responses to students' needs…DL students should have systems that are responsive to their needs and an ability to communicate to other related departments otherwise communication will never work*".

It seems, from the administrators' responses, that the university was able to provide adequate accessibility to on-ground services and efficient online testing services but, nevertheless, the inadequacy of the provided accessibility to career and professional development and the recognition and response to students needs through the students' service department was evident in all their views. The lack of cooperation between DL related departments and colleges, which includes the student services department, was cited by administrators as a negative factor in the implementation of adequate accessibility to on-ground services.

f. Evaluation dimension

To assess the implementation of criteria of quality DL with regard to the evaluation at the university, administrators were asked questions that were focused on the implementation of an efficient evaluation scheme for DL programmes and effective assessment for DL students. For the interview schedule, see Appendix 5.

- **Criteria of efficient evaluation scheme for DL programme:** concerning arrangements to conduct regular evaluations for the overall quality of DL programmes and their consistency with the TL evaluation scheme, AD1 stated, "*DL programmes' evaluation ought to be undertaken by well-known companies in the field and take place in a five-year plan to enhance future improvements…given the limited available financial resources and the unavailability of MOHE that regulates DL, an evaluation scheme that matches the TL scheme is hard to obtain… DL evaluation plan was an initiative introduced by the DDL which is something we are proud of, as I think other universities don't implement such methods due to the surrounding issues of acquiring the needed financial resources"*.

  This view was reflected by AD2 and AD4 who acknowledged the need for an annual evaluation scheme for DL programmes and highlighted the unavailability of MOHE regulations. Administrator AD4 added, "*It might be better to conduct an evaluation annually, but with its associated financial burdens, a five year plan is better than nothing while awaiting regulations from the MOHE"*.

  In a response to a question which addressed the university arrangement to seek feedback from students and faculty regarding DL programmes, AD1 disclosed, "*We used to employ a survey to gather faculty members' and students' responses but now another means has been developed by our technological department to serve this purpose*". Here AD1's statement was paralleled by AD4 who added*, "We developed a program called IDEA which is designed to solicit information and feedback from students and faculty members electronically and enable their requests to be followed, which is expected to work better than the previously employed regular surveys…but it seems that DL recipients are not acquainted with the system as yet so we don't receive adequate feedback*". In this regard AD5, AD6 and AD7 voiced their agreement on the adequacy of the implemented means to collect feedback from DL recipients and raised concerns about the reasons behind the inadequate responses from the DL recipients' side. An example of their views could be clearly demonstrated by AD7's statement, *"We used electronic surveys but it turns out that it's a burden to the DDL and now we use an application to collect recipients feedback… the issue of lack of response is self-evident… despite advertising the application on the university website, in the two years that it has been running, the registered responses have been insignificant*".

In the same vein, AD1 and AD4 justified the unavailability of means to solicit feedback for students regarding faculty members' performance. AD1 stated, *"Faculty member performance is monitored by our educational departments which are academically qualified to assess faculty members' performance*" and AD4 added, *"Student feedback is solicited through the IDEA application so, if they are facing any problems with a faculty member's performance, they can submit it… No, no specific application or survey is used to see feedback to faculty members".* The previous claims revealed by AD1 and AD4 were strongly dismissed by AD3, AD6 and AD7 who said that their jobs were more concerned with assessing faculty members' performance in DL (as stated by AD1).

The views of the administrators AD3, AD6 and AD7 can be illustrated in AD7's statement which emphasised the need for methods that are specially designed to seek input from students regarding their faculty members' instructional performance. *"Faculty members' performance is not assessed properly, students must have their say, especially in DL where it's hard to be observed properly using the available technological means… an assessment that is based on students' objective feedback through surveys would be more accurate and more convincing to faculty members than ones that are based on merely monitoring log on events*".

According to the administrators' views presented above, it can be concluded that they seemed to agree on the fact that regular evaluation is conducted by the university and adequate arrangements were in place to seek feedback from DL recipients, but, nevertheless, the DL evaluation scheme was evidently viewed as inconsistent compared to the TL evaluation scheme and means to solicit feedback from DL students regarding DL faculty members' performance was seen as absent. The interviewed administrators highlighted the financial limitations and the unavailability of MOHE regulations that address evaluation for DL, as barriers to implementing an efficient evaluation scheme for DL programmes.

- **Criteria of effective assessment for DL students:** Regarding the implementation of a variety of assessment methods to assess student outcomes and the use of different question types in the final examination, AD4 commented that, "*Faculty members can use different methods that are designed by experts to evaluate DL students through many different tools provided in the EMES and CENTRA…the final examination must be carefully designed to correspond to TL exams in reflecting the assessment of the same outcomes*".

A similar view was expressed by AD2, AD3, AD6 and AD7 which indicated the adequacy of the utilised DL applications in providing faculty with a variety of tools to assess student outcomes and the use of various types of questions in the final exams.

It appears that, from the administrators' view, the university has succeeded in implementing effective assessment for DL student outcomes by the implementation of a variety of assessment methods and the use of different types of question in the final examination.

II. Faculty members' interview results:

In this section the faculty members' interview results are presented in relation to the criteria of the implementation of quality DL with regard to each of the six dimensions proposed by the study and its associated sub-categories (see the study framework: Chapter II):

a. Institutional mission dimension:

To assess the implementation of the criteria of quality DL with regard to the institutional mission at the university, faculty members were asked questions that addressed key issues of implementing sufficient authority, adequate DL courses scheduling and provision of the needed DL programmes/degrees, adequate marketing plans for DL and DL equivalency to TL, all of which are addressed respectively. For the interview schedule see Appendix 6.

- **Criteria of sufficient authority**: In response to a question which addressed the consistency of the DL regulation, M1 explained, "*DL colleges see the DDL regulation as recommendations and the director of each college works as a hub between the college and the DDL. Whenever the director decides not to implement DDL regulations for any reason, then it's not going to be implemented. Therefore DL regulations differ from college to college, for example, I implement DDL regulations that stipulate students must attend at least 25% synchronous classes before they can enter the final exam., but, to my surprise, when I taught the same course in a different college I was instructed by the director of the DL department in the college that it was not a requirement".* The previous statement revealed the inconsistency of DL regulation which was a common theme in the interviews conducted with faculty members across the different colleges with no differences which can be ascribed to gender. The collaboration between DL service departments, on the other hand, was described as absent by the interviewees with no pattern associated with gender or college.

An example of this view can be demonstrated in F4's statement, "*DL service departments and colleges are by no means connected, every service has to be requested from the department related to the service separately and they don't recognise decisions made by other DL departments or colleges*". In expressing the same view, M1 added, "A*ctually, even for me, as a DL faculty member, I need to present evidence of being a DL faculty member to the concerned department or college as they are not connected through the regular faculty ID*".

Faculty member F2, in her view, which was also supported by F3's and M3's views, advocated the need for a DDL that has a defined role and authority to implement consistent regulation and enforce collaboration between the service department and colleges, "*What we really need is a DDL with executive power and a clearer role to be able to control all DL departments in all aspects*".

It can be concluded, therefore, that, from the faculty members' views, the university was not able successfully to implement sufficient authority, which can be seen in the inconsistency of the DL regulations and the lack of cooperation between the DL service departments and colleges. More executive power and authority to the DDL was presented as a solution by faculty members.

- **Criteria of adequate courses scheduling and provision of the needed DL programmes/degrees**: regarding the consistency and availability of scheduled courses for DL enrolled students, the lack of consistency and availability was revealed by interviewees from all the different colleges. However it appears that female colleges are more affected as all the interviewed female faculty members confirmed the inadequate course scheduling plans for DL enrolled students. This was clearly presented in the deeply concerned F2 statement, "*They need to do something about their scheduling plan, it won't work this way... students are complaining and we are suffering from the constant changes in the schedule…sometimes we don't have any idea until it is the middle of the academic year*". She continued to provide a reason for the greater impact of the inadequate scheduling process on the female colleges, "*We, in the female colleges, have to follow schedules made by authorities in the DDL which are not made in cooperation with DL colleges and we haven't got the means to do so… for male colleges the scheduling changes are communicated and processed more easily as they are able to be present in the DDL, but we cannot do that for obvious reasons*".

In response to the question which addressed the provision of the needed DL programmes/degrees, agreement between interviewees in two colleges (M3, M33 and M4) with their counterparts in the female colleges (F3, F33, F4 and F44) indicated that the unavailability of the needed programmes/degrees is evident in those two colleges. An example of the faculty members' shared view of the unavailability of the needed DL programmes/degrees in the two colleges indicated above can be illustrated in M3's response, "*Students can't find what they are looking for in all aspects…not enough degrees nor programmes… many requests are raised from our college for foundation of new programmes and degrees but they are always faced with rejections from the DDL despite the college's desire and students' requests.*

M2 (who is a director faculty member in a different college) also generally supported their view by stating, "*In all colleges the need for new DL programmes is obvious. Compared to our TL programmes we fail by 70% to provide the same programmes that are offered in TL*", but other faculty members from the other colleges were not clear about the need for more DL programmes to meet the DL students' needs.

Given the aforementioned faculty members' views, it seems that the university was not able to provide an efficient courses scheduling plan which was a more acute problem in the female colleges. Moreover, the inadequate provision of DL degrees/programmes that meet the students' needs was also expressed by faculty members, particularly in two DL colleges.

- **Criteria of efficient marketing plan for DL:** in her view, F4 sees that the university has failed to implement successfully a marketing plan that promotes the importance of DL, emphasises students' requirements and expectations. She explained this by stating, "S*tudents see DL as a low level education system where they spend time when they have nothing to do… they have no idea about the DL system and what is expected from them or even DL simple requirements… some students are only concerned with the time of the final exam so that they can be present, with no intention to carry out any DL activity*". Similar views were revealed by the interviewees across the different colleges and genders, who expressed their disapproval of the current university marketing scheme and recommended collaborative efforts on a national level. Their view can be summarised by F3 who said, *"Providing merely schedules to DL students and expecting them to carry on with their classes like in TL is the biggest mistake… universities should work together towards plans to educate individuals inside and outside the university about DL and its role in spreading education, especially among females*".

From the aforementioned faculty members' views, it seems that the university has failed to implement an efficient marketing scheme. This was due to the university's inability to implement a marketing plan that promotes the importance of DL and emphasises students' requirements and expectations. A proposed solution was a collaborative effort on a national level to tackle the inefficiency of the current marketing scheme.

- **Criteria of DL equivalence to TL**: in response to a question which addressed the implementation of the same TL programmatic requirements to DL, a collective agreement between the interviewed faculty members indicated that the university has successfully implemented the same TL programmatic requirements to DL which included the taught modules and outcomes. An example of the faculty members' views can be illustrated in M3's response, "*I can say 100% yes the same TL outcomes and modules are used in DL… we revise the offered DL modules in advance to make sure that the same programmatic requirements apply to the DL version before sending any module back to the DDL to design its learning materials*".

  Regarding the university's ability to promote recognition and accreditation of the DL certificate, again collective agreement on the university's inability to do this was evident. According to F1, "A *DL qualification receives no recognition, not from the college nor from the DDL… actually I obtained an online master's degree and I have been seeking recognition of my degree since I was employed six years ago but nothing has happened*". A similar view of the lack of recognition and accreditation to DL was expressed by faculty members across all the different colleges and genders who pointed out the down valued DL course credits compared to TL. This view can be demonstrated in F3's statement, *"Despite being the same module, DL credits cannot be transferred to TL for no reason. You can do the opposite but not from DL to TL credits…you can see how this undervalues the importance of DL for DL students which is not a good sign*".

  In light of the faculty members' responses, it can be concluded that they see that the university was able to apply the same programmatic requirements to DL (with regards to modules and outcomes) but nevertheless, they revealed the lack of recognition and accreditation of DL certificates.

b. Technology dimension

To assess the implementation of criteria of quality DL with regard to the technological aspects of DL at the university, faculty members were asked questions that were centred around the implementation of accessibility to DL delivery requirements: sufficient technological infrastructure and efficient technical support, which are addressed respectively. For the interview schedule see Appendix 6.

- **Criteria of accessibility to DL delivery requirements**: the university's ability to implement easy access to DL materials through user-friendly applications was described by M2 as inadequate, *"We are using three different programs to serve the same purpose…it would have been much easier for me and my students to use one application to have access to DL materials… actually these three programs have undergone many updates due to many glitches so you can see the problem in three different updates, not one… it's hard to manage, sometimes you need to log into the three applications to assess a student…these applications require a lot of work and they are time consuming, especially if you have TL duties and other stuff to do*". The previous view was supported by the faculty members interviewed across three different colleges, with no pattern associated with gender, who were dissatisfied with the provided accessibility and manageability of the used DL applications. M4 stated, "*It's not an easy task to work on these applications, with their lack of manageability… some applications are in English, others in Arabic, some don't work though… I know some of these applications are produced in the university and many times they update them and make them worse".*

  Following on from the previous views, this tends to imply the DL application's inability to provide an adequate level of synchronous communication. This was highlighted by many faculty members. Their view can be depicted in F4's comment, "*I found it difficult to perform even simple tasks in CENTRA as its lack of intuitiveness is unbelievable… some tasks don't work and some stop working and you know it's a synchronous application".* Interestingly, M1, M11 and F1 had a different view. M1 stated, "*Unlike the old systems, the use of Blackboard was a good experience for me as, so far I haven't had to face any problems*" and his view was backed by M11 and F1 who stated, *"Yes, the recently introduced Blackboard system is much easier to use. It provides adequate access to DL learning materials, assignments and all the required instructional processes*".

Given the three faculty members are working in the same college (although in different gender sections), it appears that a different application has been used recently in this college which seems to have solved the problem of the lack of manageability and accessibility of the provided DL applications in the other colleges.

On the other hand, the absence of the DL applications' ability to integrate across different DL service departments was revealed by all those interviewed. An example of faculty members' views can be demonstrated in M2's response, "*Look, for example, I have to submit an order through the ODUS application to send a report on students' performance and, at the same time, I have to go through another prolonged procedure to do the same with my college's application. These are the same duplicated procedures associated with acquiring a service from different service departments".*

In response to a question which addressed the provision of access to a variety of electronic reserves (through regional college partnership), M1 clearly described the current situation and pinpointed the importance of the regional electronic reserve, "*We've only got the KAU electronic reserves which are connected to some international reserves. It is still limited though…yes it is important to promote research in the DL field with the latest studies internationally but, most importantly, on the national level so researchers in the field can know exactly where we are on the national level and from where we can develop and take into account our national experience, which can only be done through partnership with educational institutions in the country*". The latter view of limited access provided by the university to a variety of electronic reserves (through regional college partnership) that was expressed by M1 was a common theme which was sustained through faculty members' interviews.

Therefore, it can be concluded that faculty members seem to view the accessibility, manageability and the adequacy of the provided synchronous communication as inadequate. They also commented on the absence of integration between the DL application and the limited access available to a variety of electronic reserves through university partnership. Faculty members' interviews revealed the advantage of using Blackboard which was used in only one DL college and the importance of the provision of access to a variety of electronic reserves through regional college partnership.

- **Criteria of sufficient technological infrastructure:** shared agreement amongst faculty members was expressed regarding the high capacity of the network infrastructure and the availability of well-facilitated DL classes (labs for synchronous classes). An example of their view can be demonstrated in M3's statement, "*DL classes are equipped with the latest hardware and software… I think the network capacity is adequate as I have never encountered any connection or delay problems in streaming classes through the network… students sometimes complain but I can't tell if it is genuine or an excuse to exit the session …* ".

  Unexpectedly, when the question of using adequate technology to develop, archive and restore DL courses was addressed, it appeared that faculty members are not involved in the courses' development process as the absence of their engagement in the course development process was a common theme. A sense of disapproval and exclusion can be elicited from their responses.

  M4 stated, "*Although the design for DL courses is the mission of DDL… faculty members, at least the course instructor, must be involved*". M33 commented, "*Faculty members might not be skilled enough to design a DL course but I think they must have a supervisory role and not be the last to know*" and F44 said, "*Every faculty member has his teaching style and the technology that he prefers to use. This must not be dictated to faculty members, otherwise the delivery process will not be effective or the instructor role will be silenced*". As the restoration process and archiving was not a part of DL faculty members' involvement, the interviews did not reveal enough information regarding the process. However, a general sense of the inadequacy of the restoration process for DL courses content (conducted by DDL) was shared by M4, M1, M22, F11 and F4 which can be understood from F4's statement, "*Restoring a course content for more than one year is a long process, a course request takes time to be sent to the DDL then processed… for me, I used the current course material as I lost hope of restoring a course I used a year ago*".

  From the aforementioned faculty members' responses with regard to implementing efficient technological infrastructure, it can be said that, although adequate, the network infrastructure and technology were available to deliver DL classes, the absence of faculty members' involvement in developing DL courses and materials and the inadequate restoration process for DL was revealed to contradict the implementation of efficient technological infrastructure.

- **Criteria of efficient technical support:** related to the efficiency of the technical support provided, the unskilled staff in the general technical support centre and the inadequate technical support times and communication options provided for DL recipients were raised as concerns by M1, M22, M3 and M4 who stated, "*The general technical support centre is designed to respond to on-campus inquiries not DL recipients. Issues related to DL applications are new to them and most of the time they are referred to the technical department in the DDL to solve our problems…the centre works during normal working hours which doesn't suit DL time schedules as mostly DL classes are not conducted during normal working hours. When immediate assistance is needed, unless there is an option to provide a direct response, other options don't work…actually, sometimes I need to take my laptop to the technological department at DDL to solve my problem without going through a long procedure inquiry that will end up in the technological department*".

  Remarkably, the unavailability of skilled staff in the general technical support centre and the inadequate technical support times and communication options provided for DL recipients were said by all the interviewed female faculty members to influence negatively the received technical support. This seems to imply that female colleges are more likely to be negatively influenced by the unavailability of skilled staff in the general technical support centre and the inadequate technical support times and communication options provided for DL recipients. Here, F2 and F3 provided a reason (which was implied in M4's statement) for the more likely negative influence of the aforementioned factors. F2 stated that, "*Unlike male colleges we cannot go and be present in the technological department at DDL even if it is necessary*" and F3 supported her argument by saying, "*The technological department is located in a male restricted area so we will have to wait for the general technical support centre response which is more likely to wait for a response from the technological department*".

  The establishment of a designated support centre for DL was proposed by M3, M2, M11, F4 and F33 as a solution to the inefficiency of the current technical support centre. M2's statement is a good example of their proposed solution, "*As a parallel educational system in the university that has different methods in all aspects, the availability of a designated support centre for DL can solve lots of problems associated with seeking support for DL recipients…unlike the current general support centre, its staff should be experienced with issues of DL applications and the problems that face DL recipients and would have time to provide adequate assistance at the opportune moment for faculty members and students, which is unfortunately not available*".

It can be drawn from faculty members' views that they see that the university has failed to implement efficient technical support due to the shortage of skilled staff that are able to respond to DL inquiries in the general technical support centre and the inadequacy of the provided technical support times and communication options for DL recipients. Female faculty members are more likely to experience the influence of a lack of skilled staff in the general technical support centre and the inadequacy of the provided technical support times and communication options due to their inability to contact personally the technological department at DDL in the male restricted area. The establishment of a designated DL technical support centre is considered by faculty members to solve problems associated with the implementation of efficient technical support.

c. Instructional support dimension

To assess the implementation of criteria of quality DL with regard to instructional support at the university, questions to faculty members focused on the implementation of efficient development processes for DL courses and adequate provision of instructional delivery requirements using technology, which are addressed respectively. For the interview schedule see Appendix 6.

- **Criteria of efficient development process for DL courses:** regarding the use of technology that meets the course needs, M2's frustrated comment demonstrated his view, "*I have no control over the course materials, everything is pre-set and I just have to deliver the instructions regardless of the way that I prefer to present the course. I may prefer to use different materials, different aids, you can't dictate one way or another. DL classes are no different from TL where faculty members are allowed to choose their own way*". This view was present in many of the faculty members' interviews with different dissatisfaction levels regardless of the gender and the college of the interviewees.

  In response to a question which addresses the adequate training of faculty members, assistance, time to develop DL courses, the absence of involvement by the faculty members in the development of courses accompanied by the unavailability of training, assistance, time to develop DL courses was revealed in the all the interviews conducted with faculty members. This entailed their inability to develop DL courses that coincide with their teaching styles.

An example of faculty members' responses in this matter can be demonstrated in F3's response who stated, "*All DL learning materials are designed in the DDL…we do our instructional part as we don't have the adequate knowledge to design or even supervise the design or development process… the experience and knowledge associated with developing proper DL materials is not available to us so, at the start, we would need training and assistance… yes you can say that we don't make any contribution to the development process so actually we have to adapt our teaching style to coincide with the developed course (laugh)".* In this matter, faculty members across the different colleges and genders highlighted the time limitations that need to be considered.

Here M1 put it clearly and justified the DDL position by stating, "*Look! I know our contribution to the development process is important but don't forget that time is not available for DL faculty members to fully engage in the development process as this will be a burden to them because their efforts in DL are not recognised compared to TL, which I think is the reason why DDL is taking over the whole process*".

Regarding the consistency of the development standards of the courses, a collective agreement between faculty members revealed the inconsistency of the courses' development standards. According to M1, M3, M22 and F33 different interface and sound effects which M3 described as, "*disturbing to the students and the instructor. Some courses have different button shapes, tasks and backgrounds… sound effects in some courses aren't clear and the narrator is quite silenced*". In the view of M4, M11, F4, and F1, the inconsistency of the courses' development standards can be clearly seen in the interfaces used. F4 described it as, "*vital to the reader that the interface must be consistent from course to course... I know it's basic to use the same font and size but don't know why it varies from course to course*". Faculty members M2, M33 and F3 spotted the inconsistency of the institutional standards in the task sequences and actions used in different courses, which F3 described as, "*It's confusing, the different tasks and commands used in the different courses…especially in the case of Arabic taught modules. In some of them, tasks lead to completely different actions, actually we, in some cases, had to send some courses back to be revised*".

In response to a question which addressed the equivalency between TL and DL outcomes and whether it is reviewed by the related department, an agreement was expressed by all the interviewed faculty members to indicate that a review of the DL outcomes is conducted by the related college to guarantee its parallel to the TL outcomes.

Such a view can be illustrated by M3's response, "*I can say 100% yes the same TL outcomes and modules are used in DL… we revise the offered DL modules in advance to make sure that the same programmatic requirements apply to the DL version before sending any module back to the DDL to design its learning materials*". He continued to pinpoint the role of the MOHE regulations in solidifying the process, "*MOHE was clear about this… any course that doesn't pass the review process cannot be considered…making sure that any new DL programme must be reviewed for the equivalency of its modules to TL before any step can be taken in founding a new programme was an important step in providing DL programmes that are parallel to TL*".

In light of the faculty members presented views regarding the implementation of an efficient development process for DL courses, it appears that they see that the university was not able to use the technology that meets the courses' needs or apply institutional standards that are consistent in all DL courses. Moreover, they see the university has successfully implemented equivalency between DL and TL in terms of outcomes and content by verifying them with their related colleges. They cited the positive influence of the availability of MOHE regulations on the implementation. However, their views pointed out the lack of freedom and the absence of training, assistance and time provided to faculty members to develop DL courses to coincide with their teaching styles.

- **Criteria of adequate provision of instructional delivery requirements:** The provision of scheduled training for students and faculty members on the technological aspects of DL as a part of ensuring sufficient provision of instructional requirements was seen by faculty members as unavailable. Faculty members M2, M33, F1, and F2 regarded the unavailability of scheduled training for students and faculty members on the technological aspects of DL as a huge barrier to delivering DL instructions. They associated faculty members' inability to respond immediately to student enquiries, assignments and test grades, to the unavailability of the provided training. They highlighted the inadequacy of regulations that organise DL as a negative factor behind the university's inability to offer training for DL faculty members. Such a view can be demonstrated in F1's statement, "*With no training related to DL available to faculty members, I think nobody can blame them when they fail to communicate properly with their students … given all the applications that they have to deal with, faculty members are responding poorly to students and the delay in test grading is justifiable…the question is how these training programmes will be identified and on what bases and who is going to implement them. I think this must be organised carefully with rigorous and clear regulations.*

Parallel to the previous view, M3, M44, M1, F3, and F4 also revealed the unavailability of scheduled training for faculty members on the technological aspect of DL but linked it to the inadequacy of the applied synchronous communication. They highlighted the vagueness of the DDL role as a negative factor behind the university's inability to offer training for DL faculty members.

Their view can be demonstrated in M44's statement, "*No training is offered on the technological aspects of DL ... we need to rely on our ability to learn as we go (laugh)... offering and organising such training must be a part of the DDL role as it is supposed to be the centre for activities related to DL but, unfortunately, they are able to evade such responsibility with their unidentified position in the DL system…the use of synchronous activities is really undermined by this. Many faculty members feel reluctant to use synchronous applications as they don't have the required skills… they tend to record lectures and use regular slides with no regard to tasks available on CENTRA to avoid unexpected embarrassment*".

Regarding the provision of support for faculty members' activities related to DL methods and instruction, M4 stated, "*Although these activities are scarce in the country, faculty members are not interested… given their busy schedules and the lack of recognition of their participation on the financial level or on the career level. Convincing them to become involved in such activities is rather difficult".* Similar to M4's view, the lack of recognition and time limitations (busy schedules) were said by faculty members to discourage their participation in activities related to DL methods and instructions.

It can therefore be concluded that, from the aforementioned faculty members' comments and views, they see that the university has failed to implement sufficient provision of instructional requirements in all aspects due to its inability to provide scheduled training courses on DL technological aspects for faculty members. There is a lack of support for faculty members' activities related to DL methods and instruction, the inadequacy of faculty members' responses to student enquiries, assignments and test grades and the inadequacy of the applied level of synchronous communication. Barriers suggested by faculty members to the implementation of sufficient provision of instructional requirements seem to include: the inadequacy of regulation that organises DL, the vagueness of the DDL role and the lack of recognition and limited time available for faculty members to engage in DL activities related to DL instructional methods.

d. Faculty support dimension

To assess the implementation of criteria of quality DL with regard to faculty support at the university, questions to faculty members have addressed aspects of implementing sufficient arrangements for DL faculty members' career development. For the interview schedule see Appendix 6.

- **Criteria of sufficient arrangements for DL faculty members' career development:** concerning arrangements to promote faculty members' participation and innovation in the DL field by rewarding it and relating it to their advancement criteria, the absence of support for faculty members' participation and innovation in the DL field, that includes complete disregard for their performance in DL in their advancement criteria, was a shared concern in all the conducted interviews with faculty members. Faculty members' views on this matter can be clearly depicted in M2's response, "*DL is seen as a subsidiary educational system at the university, although it is supposed to provide faculty members who are interested in this kind of education with new experience, they tend to go back to the TL system as soon as they have the chance ...faculty members are not receiving rewards related to their efforts and participation in DL and their performance, good or bad, is not recognised… faculty members are morally obligated to teach using their best efforts but, with this kind of ignorance about their performance and participation, I fear faculty members are more likely to leave as soon as possible*".

  Here, the vagueness of the DDL role as a negative factor to implement sufficient arrangements for DL faculty members' career development was raised by many faculty members. F3 commented, "*DL colleges apply TL criteria to assess faculty members' performance. DDL needs to have a role in enforcing this criteria*" and M4 backed up this view by stating, "*DDL regulations are seen as supervisory when it comes to faculty members' advancement criteria whereas, in the scheduling process for DL courses, DDL regulations are enforced*" and M1 summed it up by stating, "*the DDL role must be strengthened by the university authorities to take account of all the regulation introduced to regulate DL…the partial role of DDL is not doing DL colleges any favours*". Taking into consideration the previous views, it appears that the faculty members perceive the implementation of sufficient arrangements for DL faculty members' career development as absent.

This was demonstrated in the interviewees' views which revealed that faculty members' participation and innovation in the DL field are not rewarded and their advancement criteria are not related to their performance in the DL field. The vagueness of the DDL role seems to construct a barrier to the implementation of sufficient arrangements for DL faculty members' career development.

e. Student support dimension

Faculty members' interviews did not reveal much information regarding assessing the implementation of indicators of effective DL connected with student support. Nevertheless, they revealed the inadequacy of: the implemented online registration for DL students, the information provided to DL students about the new student requirements, policies, and guidelines and the online testing service.

In a response to a question that addressed the university's ability to provide a fully online registration procedure for DL students, disparity of faculty members' responses revealed that not all DL students can fully register online. M1, F1, M2 and F2 – who represent two of the DL colleges from the four DL colleges - affirmed that students are able to fully register online. However M4, F4, M3 and F3 - who represent the other two DL colleges - revealed quite the opposite by disclosing the need for DL students to be present at the university registration deanship.

Moreover, it was remarked by six faculty members that DL students seem not to be informed about issues related to course requirements and policies as most of their enquiries are directed towards DL policies and requirements. In this matter M3 put the blame on the DDL and highlighted the vagueness of the DDL's role as a contributor to the failure. He commented, "*I encountered many students who asked about basic information… training for new students must be issued by the DDL to help tackle this problem but, as I told you, the DDL role in providing training is not yet identified and students and sometimes faculty members are the victims".* Supporting this view F4 remarked, "*Students must be educated about DL requirements and policies; it must be part of their enrolment procedure…DDL is responsible for the provision of such training and information to new DL students, but, given the vagueness of its role, nobody can point to them as it's not clear who is responsible for providing training for DL students".*

Additionally, M2, M44, F22 and F1 confirmed the previous views but did not reveal any information regarding the department responsible for such a failure in their view.

Finally in this dimension, it was revealed by many faculty members that the online testing service does not accommodate students' different internet speeds. Their view can be demonstrated in M11's response who remarked, "*Many students whom I know would perform well in the online exams, received poor results, and by poor I mean a shameful zero…when I investigated the problem, it was due to lack of the network capacity to adjust the test time to their internet speed*".

From the faculty members' view, it seems that the university has failed to implement an efficient enrolment procedure due to its inability to implement fully online registration and provide training and information for the new DL students about DL policies, guidelines and requirements. Moreover, it appears that the university is not able to provide an adequate online testing service as part of its accessibility to the academic services provided to DL students. The vagueness of DDL was expressed by faculty members as a barrier to the provision of training for new DL students about DL policies, guidelines and requirements.

f. Evaluation dimension

To assess the implementation of criteria of quality DL with regard to the evaluation at the university, faculty members were asked questions that were focused on the implementation of an efficient evaluation scheme for DL programmes and effective assessment for DL students. For the interview schedule see Appendix 6.

- **Criteria of efficient evaluation scheme for DL programme**: in a response to a question about the university's arrangement to seek input from the faculty regarding DL programmes, faculty members' responses revealed that, although infrequent, satisfaction surveys were posted on the university website to solicit input from faculty members. This had been replaced with the IDEA system (system for receiving feedback regarding the provided DL services through submitting an application) which appeared to be poorly designed and did not receive much attention from the faculty. An example of the previous view can be depicted in F2's statement, "*Yes, they used to post a faculty members' satisfaction survey occasionally on their website but not any more…I think now they use a program called "Idea" but it has limited choices, no space for comments and is hard to handle… for a program that seeks suggestions it's useless and I don't use it*".

  In conjunction with this, faculty members showed a lack of interest in the IDEA application that is used by the university to seek feedback from faculty members and advocated the use of the regular electronic surveys.

Their responses can be represented in M3's comment, *"Honestly, I don't know this application. Every time they come with a new application without asking for faculty members' opinion …maybe the best way to seek feedback from faculty members is a regular electronic survey like the one they use in TL that is distributed at the end of each semester"*.

In the same vein, the unavailability of feedback from students regarding faculty members' performance was a shared concern amongst all the interviewed faculty members. Here the need for regular feedback from students to enhance faculty members' performance was emphasised by M1, who stated, "*As a DL faculty member I need continual assessment from my students as it's a new system to me and to them…given that we receive feedback in the TL system, I think it's more important in the DL system*". F4 supported his view by commenting, "*I am not really acquainted with this kind of education so I don't really know what my students expect from me and what they need...the educational department assessment is based on log-on time and forum responses which does not say much about my performance and my instructional methods…I believe a regular feedback from my students can allow me gradually to improve my performance in my DL classes… in TL we receive regular feedback, why not in in DL?*".

According to the faculty members' views presented above, it can be concluded that they seem to agree on the inadequacy of the existing methods to seek feedback from DL recipients, which include themselves and the students' feedback regarding faculty members' performance. They recognise the need for regular electronic surveys and regular feedback on their performance from the students.

- **Criteria of effective assessment for DL students:** regarding the implementation of a variety of assessment methods to assess students' outcomes, faculty members revealed that limited assessment methods are provided by the used DL application and the importance of the faculty members' role in designing assessment methods for DL students. M4 summed it up by stating, "*Most of the assessment quizzes are based on multi-choice or right or wrong or matching… the used monitoring procedure for student attendance and forum responses cannot compensate for the lack of other methods of assessment. Faculty members should be involved in the process of developing assessment tools as the predetermined tools designed by the so-called experts seem inadequate in reality"*.

  In conjunction with this, faculty members advocated the need for more assessment methods and freedom for faculty members to choose assessment methods for themselves and their responses showed a pattern of disagreement on the used methods for assessing DL students' outcomes for various reasons.

M2 stated, "*Restricting assessment methods to the existing methods in the used applications is not enough, in some modules we need different methods like group activities, team work and presentations"*. F2 added, *"Some improvement in the current assessment methods should be done to accommodate different subjects' needs*" and F4 commented, "*I don't have time to monitor every student's action or to evaluate him and these activities do not reflect achievements of the outcomes… freedom to choose assessment methods must be provided to faculty members so they can better assess student outcomes"*.

On the other hand, a collective agreement on the use of various types of questions in the final examination to assess DL student outcomes was revealed by all the interviewees. F3's response demonstrated this view, "A*s faculty members we are obliged to use the same TL questions template which consists of different question types to assess the student outcomes*".

In light of the faculty members' responses, it appears that, from the faculty members' point of view, the university was able to implement a final examination that guarantees a variety of questions. However, it has failed to provide the needed variety of assessment tools for DL students' outcomes. Faculty members expressed the need for more assessment methods and freedom for faculty members to determine the suitable assessment methods for their classes.

5.3.4 The interviews' main findings

Results from the faculty members' and administrators' interviews presented above have enabled the study to assess the implementation of quality DL at the university from the faculty members' and administrators' perspectives and identify barriers to the implementation of quality DL. The main findings drawn from the analysis of the faculty members' and administrators' interviews are summarised in light of barriers that were found to face the implementation of quality DL at the university:

- Lack of sufficient authority
- Inadequate DL course scheduling and provision of the needed DL programmes/degrees
- Inefficient marketing plan for DL
- Inadequate equivalency to TL
- Inadequate accessibility to DL delivery requirements
- Insufficient technological infrastructure

- Inefficient technical support
- Inefficient development process for DL courses
- Insufficient provision of instructional delivery requirements
- Insufficient arrangements for DL faculty members career development.
- Inefficient student enrolment procedures.
- Inadequate accessibility to on-ground and online testing services for DL students
- Inefficient evaluation scheme for DL programmes

Although the main findings of the faculty members' and administrators' interviews above showed agreement in their assessment of almost all of the listed barriers (except the barrier of ineffective assessment for DL students revealed only by faculty members), disparity between their views in some of the detailed/underpinning criteria were evident and indicated slight differences in their assessment, which was later tested by triangulating the interviews findings with the other data collection techniques used in this study (see Chapter VII). This included one criterion of adequate DL course scheduling and provision of the needed DL programmes/degrees, two criteria of adequate accessibility to DL delivery requirements, two criteria of efficient development process for DL courses, one criterion of adequate accessibility to on-ground and online testing services for DL students, one criterion of an efficient evaluation scheme for DL programmes and one criterion of effective assessment for DL students. For a detailed account of the agreement level between faculty members' and administrators' interviews see Appendix 4.

Moreover, the assessments of criteria of quality DL (through the study evaluative framework) from the perspective of faculty members and administrators have generated more factors that are seen by faculty members and administrators as local barriers pertinent to the implementation of quality DL in Saudi Arabia. Accordingly, the study evaluative framework was expanded (inductively) to encompass new factors (barriers) in each dimension (see Table 5.3 on the next page).

Table 5.3: Barriers emerged in the interviews classified by their pertinence to the study framework dimensions

No	**A-Institutional mission dimension**	
1	Barriers related to criteria of sufficient authority.	The ambiguity of Ministry of Higher Education regulations
		The vagueness of the Deanship of Distance Learning role
2	Barriers related to criteria of adequate DL courses scheduling and provision of the needed DL programmes/degrees	The shortage of registered students
		The shortage of DL faculty members
		The great scrutiny associated with acquiring the needed funds for DL
3	Barriers related to criteria of adequate marketing plan for DL.	The unavailability of a national marketing plan
4	Barriers related to criteria of DL equivalency to TL.	Lack of communication and coordination between the Ministry of Higher Education and the Ministry of Civil Services
	B- Technology Dimension:	
5	Barriers related to criteria of accessibility to DL Delivery requirements	Lack of recognition of the Deanship of Distance Learning role
		The unavailability of Ministry of Higher Education regulations that encourage regional college relationships.
		Inadequate cooperation between DL concerned department and colleges and the Deanship of Distance Learning
6	Barriers related to criteria of sufficient technological infrastructure	The high dependability on outsourcing companies
7	Barriers related to criteria of efficient technical support	The unavailability of a designated technical support centre
		The unavailability of the Ministry of Higher Education regulations that address the DL budget
	C- Instructional support dimension:	
9	Barriers related to criteria of adequate provision of instructional delivery requirements	The ambiguity of the Ministry of Higher Education regulations that address DL regulations
		Inadequate cooperation between the DL concerned department, colleges and the Deanship of Distance Learning
		Lack of recognition of the Deanship of Distance Learning role
		Lack of recognition and adequate time provided for faculty members to engage in DL activities related to DL instructional methods
	D- Faculty support dimension:	
10	Barriers related to criteria of sufficient arrangements for faculty members' career development	The unavailability of the Ministry of Higher Education regulations that address rewarding faculty members in the DL field
		The exclusion of the DL budget from the university budget cycle
		The recognition of the Deanship of Distance Learning role
	E- Student support dimension:	
11	Barriers related to criteria of efficient enrolment procedures	Inadequate cooperation between DL related colleges and departments
		Inconsistency of DL regulations.
		Lack of recognition of the Deanship of Distance Learning role
12	Barriers related to criteria of adequate accessibility to on-ground and online testing services for DL students	Inadequate cooperation between the DL concerned department, colleges and the Deanship of Distance Learning
	F- Evaluation and assessment dimension:	
13	Barriers related to criteria of efficient evaluation scheme for DL programmes	Inadequate financial support provided
		The unavailability of the Ministry of Higher Education regulations that address evaluation for DL

Accordingly, these findings have provided the study with two main advantages. Firstly, it helped the construction of clear items in the students' questionnaire (see Chapter VI) - which assesses the implementation of quality DL at the university- by providing a clearer view of the current situation at the university that takes into account the local factors presented in Table 5.3 alongside the rest of the criteria in the study framework. Secondly, these factors have shed light on local barriers that face the implementation of DL in the university which helped the study to develop a strategic approach that takes into consideration local/national barriers.

5.4 OBSERVATIONS

The main aim of the observations was to provide further assessment to the quality of DL at the university to enhance the findings collected from the previously conducted data by means of triangulation (see Chapter IV, Observation). This, according to Marshall and Rossman (2014), allows the researcher to enhance the previously collected data (in this study interviews and questionnaires) by clarifying any inaccuracies in descriptions or information and comparing and contrasting the overall findings to promote the trustworthiness of the study results.

The observations were conducted as the last data collection technique and were focused on events, actions and settings related to the criteria of quality DL proposed in the study framework which encompassed barriers revealed in the interviews (see the interviews main finding: Table 5.3). Given the same framework was used in the assessment conducted previously using other data collection techniques (faculty members' and administrators' interviews and students' questionnaire), the observation was able to verify the previously collected assessments and reduce the researcher's bias by comparing and contrasting the observation assessments with those collected previously.

5.4.1 Observed events

Observations focused on describing and recording events related to the criteria of quality DL proposed in the study framework. Observations included the following events/sittings:

- Eight DL classes were observed. This involved gaining access to:
    - Students' forums on EMES
    - Synchronous application (CENTRA)
    - DL registration application (ODUS)

- Visits to the DL related departments at the university
    - Departments inside the DDL
    - DL colleges
    - Library and examination centres
- The university website focusing on elements related to DL.

Brief questions to staff involved in related events/sittings (during visits to DL related departments) were asked if necessary to clarify surrounding issues.

5.4.2 Method of analysis

The observed events were described and recorded (in case of synchronous classes) and notes, self-memos and interim summaries were created in the process. The study then used a thematic qualitative analysis procedure to analyse the collected data (see section 5.3.2 details). The study used the summarising technique suggested by Kvale (1996) (which was also used for analysis of the documents) to analyse the resulting observation data. Observation notes and memos were compressed into brief statements (summaries) that covered the key points. This enabled the researcher to focus on the relevant issues of the observed events and reduce the data into manageable summaries to be categorised meaningfully. Summaries were labelled in relation to their related themes of investigation (based on the study framework) and notes were attached to each observed event to describe the time and purpose of the observation. Robson (2002) indicated that the aforementioned arrangements in organising the observation data help the researcher to verify and compare the findings from other sources with the observation findings and refer to specific observations (Robson, 2002).

5.4.3 Observation results

In this section results are presented in relation to the criteria of quality DL within the study framework of the six dimensions proposed by the study:

a. Institutional mission dimension

To assess the implementation of criteria of quality DL with regard to the institutional mission at the university, observations in this dimension were focused on observable issues related to criteria of implementation: sufficient authority, adequate DL course scheduling and provision of the needed DL programmes/degrees, efficient marketing plan for DL and DL equivalency to TL.

- **Issues related to criteria of implementing sufficient authority:** during the researcher's visits to the departments that offer DL programmes, it was noted that some departments had a designated office for DL inquiries and others had not. Enrolment procedures were different from department to department, for example it was noted that, in some departments, students have to attend to pay while in others they can pay online. These observations confirmed the administrators', faculty members' and students' responses that suggested the inconsistency of the instructions and procedures between different DL departments.
- **Issues related to criteria of implementing adequate DL course scheduling and provision of the needed DL programmes/degrees:** during observation periods of classes in three different DL programmes (two female and one male) it was noted that more than one scheduled course in the current year plan did not appear in the EMES (the course management system in use at the university). In addition, by observing DL classes through the EMES system, the researcher was able to log into the students' forums that discuss issues related to DL courses. It was noted that many students posted suggestions for new degrees and complained about the limited choices offered by the university. No responses to these suggestions were posted by the university. This observation agreed with faculty members' and students' assessments that indicated an inadequate scheduling process for DL enrolled students and confirmed evidence of the limited DL programmes offered by the university. This was revealed by faculty members, administrators and students.
- **Issues related to criteria of implementing adequate marketing plan for DL:** information that promotes the importance and equivalency in value of DL to TL was hard to find on the university website, and no indication of DL requirements, skills or policies was present. The only form of promotion in the university website was photographs of DL students who recommended DL as a good experience. This impression was confirmed by logging into the EMES system as an observer participant to observe the information that is available to students. It mainly comprised of guidelines on how to use the system.

  Moreover, in none of the eight DL classes observed were any references made to the course requirements, expectations or required skills. These observations, along with faculty members', administrators' and students' views, indicated that the institution marketing scheme was not able to promote the importance of DL and did not emphasise students' requirements or expectations.

- **Issues related to criteria of implementing DL equivalency to TL:** by logging into the ODUS system (classes/courses registration system) of all the DL colleges that offer DL programmes, it was discovered (after comparison with the parallel TL programme) that the same modules are scheduled for the DL students' programmes. However, some of the modules were not found in the ODUS system but this is likely to be due to scheduling deficiencies as some had been scheduled in another semester (see: issues related to criteria of implementing adequate DL course scheduling). This supported administrators', faculty members' and students' assessments that indicated that DL colleges use the same modules that are used for students in the TL mode of delivery.

  In the same vein, observations of the EMES forums (males and females with no particular pattern found relating to gender) also revealed that, although many students posted complaints condemning university regulations that do not allow transferring DL credits or student status to the traditional mode for the same modules while the opposite is allowed (transfer of credits and student status from TL to DL), again no responses from the university authority were posted. These observations corresponded with faculty members', administrators' and students' views regarding the lack of recognition and accreditation of DL compared to TL.

b. Technology dimension

To assess the implementation of the criteria of quality DL with regard to the technology dimension, observations in this dimension were focused on observable events pertinent to the criteria of implementing accessibility to DL delivery requirements, an adequate technological infrastructure and efficient technical support.

- **Issues related to criteria of implementing accessibility to DL delivery requirements**: the researcher's experience with the EMES system has revealed that, although the researcher has logged on from a laboratory computer, many blackouts have occurred in the system and some tasks in the application interface were not active or led to unexpected errors.

  Moreover, many students' services could not be performed using the EMES system. For instance, students are required to log into different applications (ODUS, Library App. or CENTRA) to amend their scheduled courses, log into the library or the synchronous mode of DL.

These observations agreed with faculty members' and students' views and challenged the administrators' views by identifying the inadequate accessibility and manageability of the used DL application. However, they agreed with administrators', faculty members' and students' views on the absence of the integration between DL applications.

Moreover, due to ambiguity within the system (CENTRA) interface and the procedures required to join the synchronous sessions, seeking assistance was inevitable. Furthermore, it was necessary for students to use a different code (sent to them via user email) every time they logged into a synchronous session. It was also noted that, despite the variety of application tasks, in most of the observed synchronous sessions only live stream tasks and PowerPoint slides were used; the student's talk feature was hardly used at all. Moreover, the texting feature was disabled in the majority of the observed classes and on two occasions the faculty members had to seek assistance to enable it. Such observations go hand in hand with faculty members' and students' views and comments that reported the inadequacy of the provided DL synchronous communication due to issues related to inaccessibility of the application and the inefficiency of the applied procedures which contradicted the administrators' view in this matter.

- **Issues related to criteria of implementing adequate technological infrastructure**: visits to the technological department revealed that the DL software and hardware were sufficient to fulfil DL delivery requirements; DL classes/labs were facilitated with the needed hardware (aids) and DL applications were working properly. This coincided with the assessment of faculty members, administrators and students. Nevertheless, inquiries during these visits revealed that DL courses are to be developed by the different companies' experts which confuses the procedures of restoring and archiving DL courses because of the multiple contributions of these companies to one product. In other words, courseware development is disseminated over many companies which makes the process of restoring and archiving DL courses difficult. This backed up findings from the administrators' and faculty members' interviews regarding the inefficient arrangements for the development and archiving processes for DL courses.
- **Issues related to the criteria of implementing efficient technical support**: many calls for assistance were made by the researcher (during a variety of times to avoid the time error) to assess the ability of the DL technical support centre in responding to DL recipients' inquiries via the phone lines.

Although calls were during the normal working hours (8am to 4pm) responses usually took a considerable time and several attempts. Instructions received were not clear and on many occasions the researcher was put on hold by the operators to seek help answering the researcher's inquiries, suggesting that the technical support centre staff were unfamiliar with the DL troubleshooting systems and visits to the technical support centre were required to answer further inquiries. Moreover, technical support for DL is to be provided by the university general on-campus technical centre as no designated technical support centre for DL is available. These observations agreed with the assessment of administrators, faculty members and students on many aspects addressing the unavailability of a designated technical support centre, the inadequate training for personnel and the limited range of communication options and times available to DL recipients.

c. Instructional support dimension:

To assess the implementation of criteria of quality DL with regard to the instructional support at the university, observations in this dimension were focused on observable issues related to the criteria of implementing an efficient development process for DL courses and sufficient provision of instructional delivery requirements.

- **Issues related to criteria of implementing efficient development process for DL courses:** in five of the observed eight DL classes (no particular pattern found related to gender) there were many observable differences between the courses' interfaces and tools to show that the same standards are not applied in all DL courses. Although this opposed administrators' views, it corresponded to faculty members and students and indicated the inconsistency of the institutional standards applied in the development of the DL learning materials.
- **Issues related to criteria of implementing sufficient provision of instructional delivery requirements:** in six synchronous sessions observed, instructors had difficulty in performing the application tasks and sought assistance (with no particular pattern found related to gender); on some occasions - where assistance took time to arrive - recorded lectures were to take place later.

  It is worth mentioning that, although DL synchronous sessions were compulsory, logging in to the EMES application revealed that many of them were cancelled by instructors and replaced with recorded lectures with no posted justifications.

Furthermore, having logged into the university DDL website and the other DL applications (EMES and ODUS that are related to training and activities of DL applications), there was no indication of scheduled training courses that address the technological aspects of DL for faculty and students, regardless of many requests for them noted in the students' forums. These observations accumulated to support faculty members', administrators' and students' assessments that indicated the inadequacy of the applied level of synchronous communication and the unavailability of scheduled training courses for DL technological aspects for faculty members and students.

Moreover, observation of the students' forums revealed (with no particular pattern found related to gender) that many students' complaints were directed at the faculty members' failure to deliver assignment results in the time required. In conjunction with this, it was found that, on many occasions, faculty members' responses took more than a week and, in some courses, results were not delivered until the first week of the next semester. Again these observations confirmed faculty members', administrators' and students' views that showed the inadequacy of faculty members' response to student enquiries, assignments and test grades.

d. Students support dimension

To assess the implementation of criteria of quality students' support for DL at the university, observations in this dimension were focused on observable issues related to criteria of implementing efficient enrolment procedures and accessibility to on-ground and online testing services.

- **Issues related to criteria of implementing efficient enrolment procedures:** it was noted that it was difficult to find DL information that addresses DL policies, guidelines and requirements on the university website as information was scattered throughout different department pages; the only package of information, with regard to DL programmes and their required courses, was available for students who were already enrolled through the EMES system.

  Moreover, by browsing the colleges' DDL website, and announcements on the EMES system, it appeared that no training for new students was available as no indication of any training scheduled for such a purpose was found. These observations concurred with faculty members' perceptions that low levels of information regarding DL policies and requirements are available to DL students.

They also agreed with findings from the administrators' interviews and the students' survey that showed the unavailability of training for new DL students about DL policies, guidelines and requirements and the unavailability of information that addresses DL policies, guidelines and requirements.

- **Issues related to criteria of implementing accessibility to on-ground and online services**: visits to the library and other service departments (students service department, learning and development centre and the technology department) confirmed that DL students have access to all the services by using their student card; this observation confirmed the administrators' views. Nevertheless, it was noticed that, on many occasions, in some departments offering DL programmes, the choice of joining professional and career activities was not available to DL students as they had to be present to register for these activities; no announcements had been made on the university website and rooms were not equipped to accommodate online communication. These observations coincided with the administrators' and students' assessments that indicated the inadequacy of the accessibility provided for DL students' activities related to career and professional development.

  With respect to the online testing services provided by the university, it has been discovered that many complaints in the student forum were related to the inability of the online testing service to accommodate dial up connections, which resulted in skewed results. Although this supported faculty members' and students' views of the inadequacy of the provided online testing service, it disagreed with administrators' views.

e. Evaluation dimension

To assess the implementation of criteria of quality DL with regard to the implemented evaluation scheme at the university, observations in this dimension were focused on observable events related to the criteria of implementing an efficient evaluation scheme for DL programmes and effective assessment for DL students.

- **Issues related to criteria of implementing efficient evaluation scheme for DL programmes**: after logging into the IDEA application (the application where DL recipients can submit their views and complaints to the DDL), it was noted that limited categories existed, beyond which the user could not go. Moreover, there were no follow up procedures to answer the user's complaints. In addition, visits to the university website revealed that no link existed to surveys or any tools to seek DL participants' opinions.

These observations showed elements of the inefficiency of the used methods to seek feedback from DL recipients that were indicated in the assessments of faculty members and students which contradicted administrators' claims of the adequacy of the used methods to seek feedback from DL recipients.

Additionally, by logging into the ODUS application (where issues related to faculty members' careers and feedback can be browsed) no links to student feedback were to be found. This implies that no students' feedback can be received by faculty members which agreed with the assessments indicated by faculty members, administrators and students.

- **Issues related to criteria of implementing effective assessment for DL students:** by logging into the EMES system, it was discovered that the faculty members' assessment screen was designed to allow only multiple choices and yes or no questions that can be corrected automatically by the system; no other assessment methods were available apart from the students' monitoring features. This observation supported the faculty members' and students' views that highlighted the inadequacy of the used methods in assessing DL students' outcomes which again challenged the administrators' claims of their adequacy. At the same time, visits to the five examination centres revealed the use of a variety of questions in the final examination which agreed with the collected evidence from the interviews and the students' survey.

5.4.4 The observations' main findings

The purpose of the observations was to assess the implementation of criteria of quality DL by verifying its findings with those from the faculty members' and administrators' interviews and the students' survey. This has enabled the study to reduce the researcher bias and at the same time compare and contrast assessments from four different data collection techniques and resources.

The observations' findings have collectively agreed with faculty members' and students' assessments and challenged the administrators' assessment in some aspects of implementing criteria of quality in many dimensions. The main findings of the observations can be summarised in thirteen factors that are found to influence negatively the implementation of quality DL at the university:

- Lack of sufficient authority
- Inadequate DL course scheduling and provision of the needed DL programmes/degrees

- Inefficient marketing plan for DL
- Inadequate equivalency to TL
- Inadequate accessibility to DL delivery requirements
- Insufficient technological infrastructure
- Inefficient technical support
- Inefficient development process for DL courses
- Insufficient provision of instructional delivery requirements
- Inefficient student enrolment procedures
- Inadequate accessibility to on-ground and online testing services for DL students
- Inefficient evaluation scheme for DL programmes
- Inefficient assessment for DL students

Given the observations were conducted as the last data collection technique that contributed to the achievement of the fifth objective (see Chapter I the study objectives), it can be concluded that the observations' findings have agreed with faculty members' and students' assessments (see Chapter VI for student assessment) and challenged the administrators' assessment in some aspects of implementing criteria of quality (see the interviews' main findings). For a detailed account of the agreement levels between all the employed data collection see Appendix 4.

5.5 SUMMARY AND CONCLUSION

In assessing the implementation of quality DL from the perspectives of both faculty members and admininstrators, qualitative data collection techniques were used to identify barriers that face the implementation of quality DL. This involved firstly document review to provide initial assessment for the quality of current DL at the university based on the study framework (see Chapter II, the study framework) and, at the same time, enhances inquiries for the subsequent data collection techniques by identifying key issues for further investigation. Secondly, interviews with faculty members and administrators were conducted to assess the implementation of quality DL from the perspectives of both faculty members and administrators. This was followed by observations to provide further assessment to the quality of DL at the university to enhance the findings collected from the previously conducted data collecting techniques by means of triangulation - which included the students' questionnaire (for a detailed account of levels of agreement between all the employed data collection techniques see Appendix 4).

Triangulation of the findings of the aforementioned four data collection techniques has indicated the inadequacy of the implemented quality and pinpointed barriers in six levels, which included: institutional mission barriers, technological barriers, instructional support barriers, faculty and student support barriers, and evaluation barriers.

This chapter has presented findings that have contributed partially to the achievement of the study's fifth objective that aimed to assess the implementation of quality DL and the identification of barriers that face the implementation of quality DL in KAU from the perspective of faculty members and administrators (see the study aim and objectives: Chapter I). Given that this is a partial achievement of this objective, the next chapter presents the complete part of the achievement of the aforementioned objective and moves a step forward to contribute to the achievement of the sixth and final objective of the study aiming at the development of a strategic approach to the implementation of quality DL in Saudi Arabia.

CHAPTER VI

QUANTITATIVE ANALYSIS AND RESULTS

6.1 INTRODUCTION

This chapter presents details of the quantitative data collection techniques that were used in this study, together with the associated analytical procedures. The aim of the quantitative data collection techniques used in this chapter is to allow an assessment of the implementation of quality DL from the perspective of DL students, through the use of a student survey. Moreover, the Delphi technique was utilised to validate the study solutions and to develop an outline that was able to guide the approach devised as part of the study for implementing quality DL in Saudi Arabia from the perspective of DL experts in that country.

6.2 THE STUDENTS' SURVEY

The main aim of the students' survey was to assess the implementation of criteria of quality DL from the perspective of the DL students. The survey used items from the Chen et al.'s (2011) quality assessment survey which was adapted in terms of the study framework. This involved reorganising the Chen et al. (2011) survey items to reflect the six dimensions of the study framework (see Chapter II: Table 2.2) - and the findings of the interviews - which allowed the Chen et al. (2011) survey items to be modified to encompass local barriers and the information gained from Chapter V: Section 5.3.4. To achieve the study objectives of assessing the implementation of the criteria with regard to quality DL from the perspective of DL students, the whole student population was targeted (more than 1,200 students who are enrolled as DL students). The survey findings were incorporated with the findings from the interviews. The survey items consisted of seven sections:

SECTION I. Profile

This section explores the profile of the participants in terms of gender; age; degree; department; and years of experience, all of which have been found in the literature to have an influence on the participants' opinions (see "The survey" in Chapter IV). By doing so, the study was able to detect associations between the participants' profiles and their responses to the survey items.

SECTION II. Institutional mission

This section of the survey aimed to explore students' opinions with regard to the implementation of quality institutional mission criteria. It consisted of 17 items that explored students' opinions with regard to:

- Sufficient authority

- Adequate DL courses in terms of the scheduling and provision of the necessary DL programmes/degrees

- Adequate marketing plan for DL

- DL equivalency to TL

SECTION III. Technology

This section consisted of 16 items that addressed criteria related to the quality implementation of DL concerning the technological aspects. These items were related to:

- Accessibility to DL delivery requirements.

- Sufficient technological infrastructure.

- Efficient technical support.

SECTION IV. Instructional support

To assess the implementation of quality instructional support. This section explored students' opinions regarding eight items that addressed:

- Efficient development processes for DL courses.

- Adequate provision of instructional delivery requirements.

SECTION V. Student support

In order to assess the implementation of quality student support criteria at the university, students' opinions were sought regarding 10 items related to:

- Efficient enrolment procedures.

- Adequate accessibility to on-ground and online testing services for DL students.

SECTION VI. Evaluation

The evaluation section consisted of eight items to examine students' opinions concerning the implementation of quality evaluation criteria which addressed:

- Efficient evaluation schemes for DL programmes.

- Effective assessment for DL students.

For the student survey items see Appendix 2.

SECTION VII. Students' comments

An extra space was provided at the end of the student survey to allow students to write any comments or ideas that are pertinent to the study topic.

6.2.1 Method of Analysis

The study used the SPSS (Statistical Package for the Social Sciences) application programme to aid the analysis of the data collected from the students' survey. The following statistical tests were used:

- SPSS frequency summary was used to identify the characteristics of the survey participant groups (in the profile section) in percentages. This provided a clear picture of the proportion of participant groups.
- Chi-square (goodness of fit) was used to test the significance of the study findings with regard to the frequencies of participants' responses to items in sections II-III-IV-V-VI. This enabled the study to triangulate the survey findings with those from other sources.
- Chi-square test for independence (r x c) was used to test the association of each item in section I and items in sections II-III-IV-V and VI. This enabled the study to determine the influence of the participants' characteristics on their responses.
- Spearman's rho test was used to test the correlation between different items in sections II-III-IV-V and VI. This helped the study to test the strength and type of the relationships between variables that were identified using the other data collection techniques in the light of the students' perceptions.

The significance value of <0.05 suggested by Pollard (2014) was used to determine the significance of the performed tests on the questionnaire findings.

6.2.2 The students' survey findings

The survey was distributed to the whole student population as it was of a manageable size from the researcher's point of view (more than 1,200 students enrolled in the DL system at the time of the study).

Two ways of distributing the survey were used, namely an electronically distributed survey (sent to the students' emails with a link leading to the survey form) while a paper survey was distributed to the students at the examination centres to achieve a high response rate.

The survey response rate was 40% (482 participants responded) of the targeted participants which is an acceptable response rate according to Saunders, Lewis and Thornhill (2009). To assess the implementation of the criteria associated with quality DL in the five dimensions proposed by the study, the participants' opinions were sought regarding 59 items, using a combination of a Likert scale containing five dimensions (Agree, Strongly agree, Not sure, Disagree and Strongly disagree) which were later combined into three categories (Agree-Not sure-Disagree) to facilitate the use of the "chi square" measure and the presentation of the findings. Moreover, Yes/No questions with a brief comments sections were used, and finally a space for any additional comments was provided by the survey. According to Fink (2003), Cronbach's alpha test can be used to assess the consistency between the scale items as a means of testing the reliability of the instrument**.** The institutional mission subscale consisted of 17 items (α = .937); the technology subscale consisted of 16 items (α = 0.853); the instructional support subscale consisted of eight items (α = 0.776); the student support subscale consisted of 10 items (α = 0.950); and the evaluation subscale consisted of eight items (α = 0.747) (see Appendix 9). This indicates acceptable consistency between items in each scale as, according to Fink (2003), a range of α between 7 and 9 is considered acceptable with regard to internal consistency, and reflects the reliability of the instrument being used.

The SPSS package was used to generate the findings which include graphs, tables and statistical tests (see Appendix 9 for SPSS output). Before conducting any tests using the SPSS, cases with missing data (values) were excluded. The findings of the students' survey are presented in the light of the questionnaire's seven sections.

SECTION I. Profile

This section identifies the characteristics of the survey participants in terms of percentages based on the frequency of their responses with regard to their gender, age, level of education, college of study and experience of DL. It provided a clear picture of the proportion in terms of participants' groups, and helped to identify any relationship between the participants' profiles and their responses to the survey (see the survey findings II, III, IV, V, and VI).

• **Gender:**

Frequency statistics showed that 49% of the participants were male and 51% were females. This sample, therefore, fairly represents the DL targeted student population at the university with only a 2% difference from the actual DL students' community with regards to gender (see the study community: Chapter I). Figure 6.1 shows the number of participants by gender.

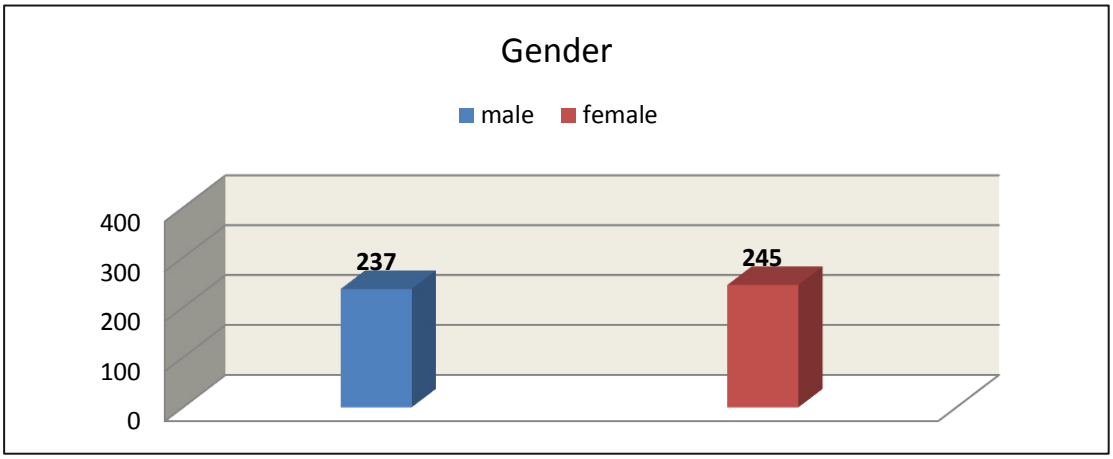

Figure 6.1: Numbers of participants by gender

• **Age:**

In terms of the DL learners' age groups (18-30, 31-45 and over 45 years of age) identified in the literature (Koohang and Durante, 2003; Radford, 2011; Hanover, 2011), the analysis of frequencies shows that the 18-30 age group made up 49% of the overall number of participants, the 31-45 age group made up 45% which is a relatively similar percentage, and the smallest proportion (6%) was for participants over 45 years of age. This mirrors the expected age brackets of the students engaging in the DL system reported by Hanover (2011). Figure 6.2 shows the number of participants in terms of the three age brackets.

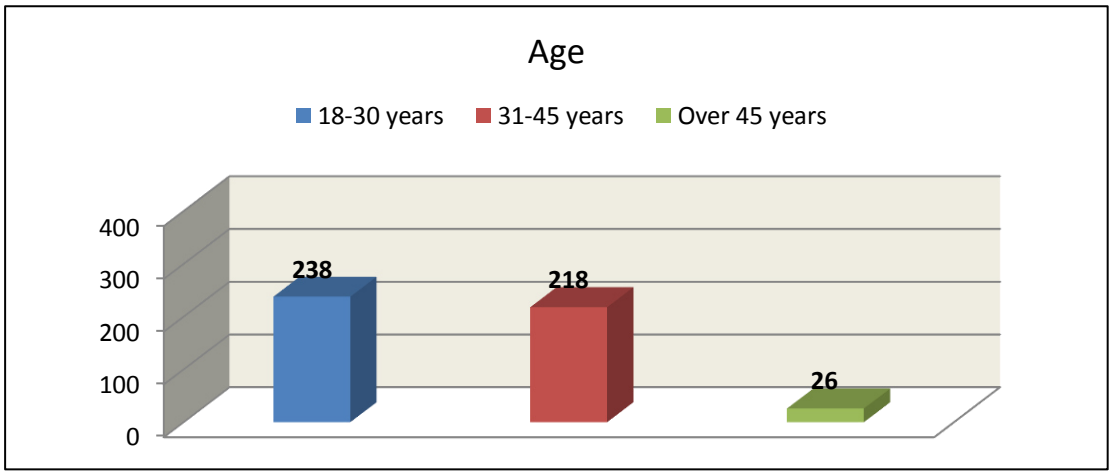

Figure 6.2: Numbers of participants by age bracket

• **Education level**

The frequency distribution shows that the highest proportion (75%) of the participants had been educated to secondary school level, as the university currently is focusing on the undergraduate level and running only two DL courses for postgraduates (see Chapter I: the study community) which can be seen in the respectively declining proportion of the participants who have Bachelor degrees (23%) with a dramatic fall in the case of students with Master's degree (1%) and Doctorates (1%). This may indicate that the university has failed to offer enough postgraduate DL degrees. More postgraduate degrees would enable the university to attract students at postgraduate level, as the university offers only two postgraduate programmes amongst its 10 DL programmes. Although postgraduate participants formed a small/negligible percentage, it is worthwhile investigating their inclination in terms of opinions when it comes to such opinions in comparison with the overall participants. Figure 6.3 shows number of participants by level of education.

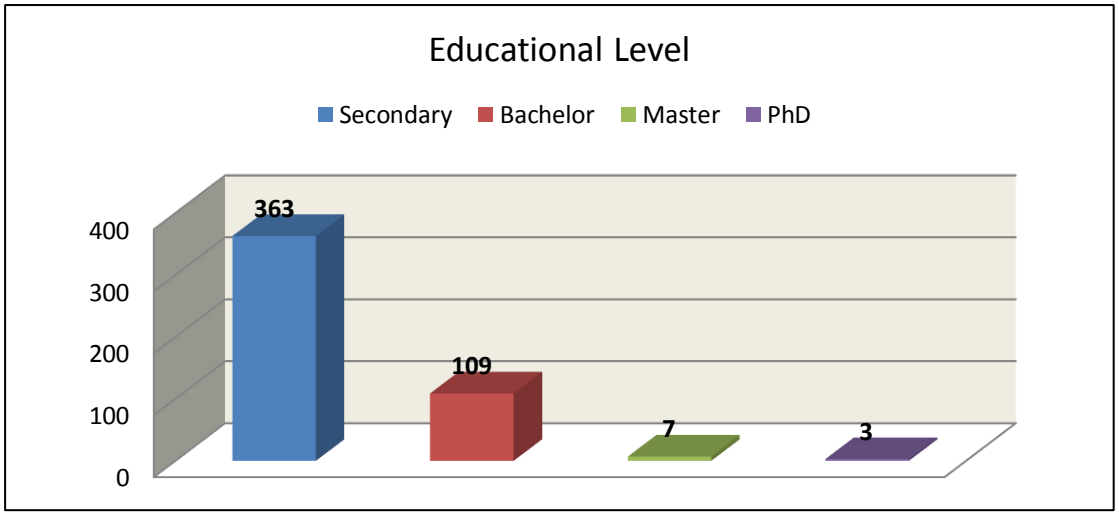

Figure 6.3: Numbers of participants by level of education

• **College of study**

The results show that the participants from all four colleges participated in the survey. The frequency distribution showed an expected result. The highest proportion of participants were at the Rabigh Business School (43%), the lowest proportion of participants were part of the Graduate Studies Program (16%), while at the College of Economics and Administration and the College of Art and Humanities, the proportions were nearly equal, making up 20% and 21% respectively. This was not surprising, as Rabigh Business School has most of the DL programs offered by the university, with four DL programs.

The College of Economics and Administration and the College of Art and Humanities came second, with three and two DL programs respectively, while coming last was the Educational Graduate Studies Program with only one DL program (see Chapter I: the study community). Figure 6.4 shows the number of participants according to their colleges.

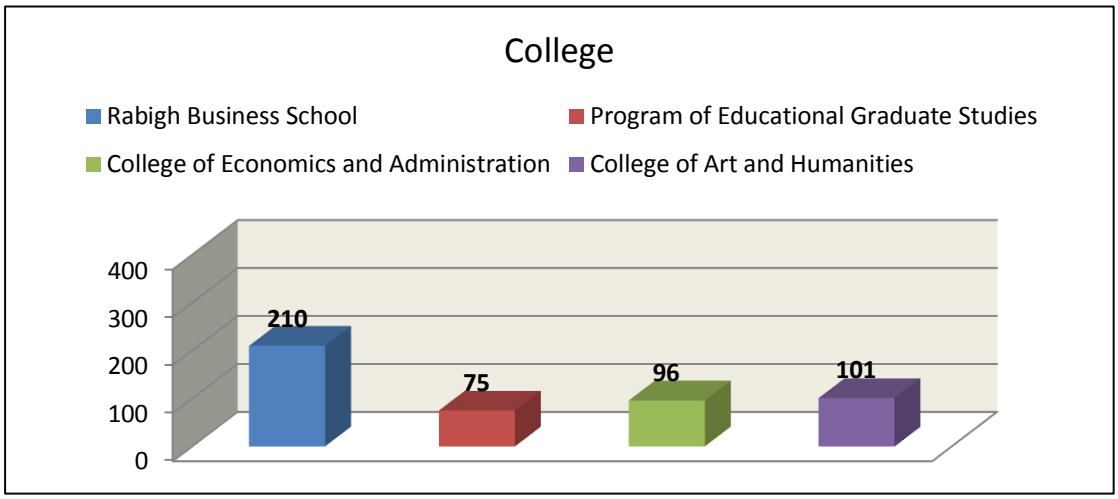

Figure 6.4: Numbers of participants by college

- **Experience of DL**

In the final part of the profile section, the frequency statistics showed that DL students with no experience of DL formed the smallest proportion, making up only 5% of the overall number of participants. According to Al-Fadhli (2009), the participants' unwillingness to participate in DL-related issues is expected to be due to the participants' lack of computer skills and confidence in having an opinion about DL. The majority of the participants had more than one year's experience, making up 61%, and DL students with between one term and one year experience came second, making up 34% of the overall number of participants. Figure 6.5 shows the number of participants in accordance with their experience of DL.

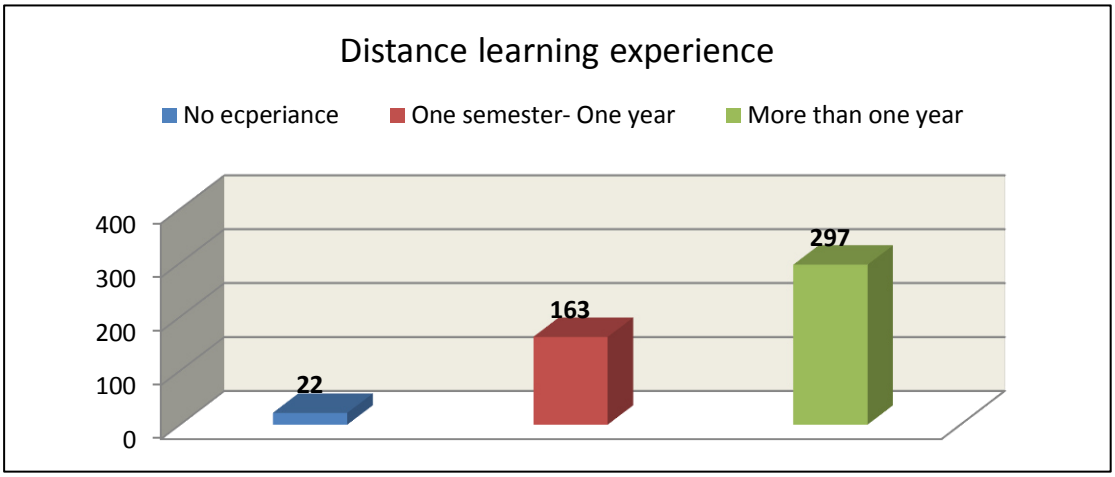

Figure 6.5: Numbers of participants in terms of experience of DL

SECTION II. Institutional mission

To assess the implementation of the criteria with regard to quality DL related to the institutional mission at the university, a chi-square test (goodness-of-fit) was performed to determine the significance of the students' opinions with regard to the 17 items related to the institutional mission section in the questionnaire. This section contains statements pertinent to the criteria related to implementing quality DL in terms of the institutional mission. With regard to values of significance <0.05, the results showed significant differences in the students' responses. Results are presented in relation to aspects of quality institutional mission DL (see Chapter II: Figure 2.8).

• Items to assess the implementation of sufficient authority

Students' significant disagreement with regard to items (1) , (2) and (3) (see Table 6.1) indicated the inconsistency of the policies in operation with regard to the DL programmes at the university, the vagueness of the DDL role, and the lack of cooperation between service departments and colleges. This is manifested in the different policies applied with regard to the different programmes, the lack of clarity in terms of the DDL role in organizing DL, and the lack of collaboration and recognition of procedures produced by different service departments and colleges. Students' opinion with regard to these three items corresponded with views expressed by administrators' and faculty members in revealing a lack of sufficient authority.

Table 6.1: Students' responses to items that assess the implementation of criteria of sufficient authority

Item	Statement	Agree	Not sure	Disagree	Sig.	χ^2
1	The same distance learning policies (i.e. course registration and withdrawal, requests, inquiries…) are applied in all distance learning programmes.	28%	18%	54%	P= .000	112.21
2	The Deanship of Distance Learning has a clear role in organising all distance learning operations and processes.	29%	18%	53%	P= .000	98.66
3	Distance learning service departments and colleges recognise other departments' and colleges' procedures/regulations and cooperate accordingly.	28%	19%	53%	P= .000	75.10

• Items to assess the implementation of adequate course scheduling and the provision of the needed DL programmes/degrees

Students' significant disagreement in terms of items (4) and (5) (see Table 6.2 on the next page) confirmed the inconsistency of scheduled courses that was revealed by the faculty members' views and the unavailability of a variety of DL programmes offered by the university that was revealed in both faculty and administrators' interviews.

Table 6.2: Students' responses to items that assess the implementation of criteria of adequate provision to meet the academic needs of DL students

Item	Statement	Agree	Not sure	Disagree	Sig.	χ^2
4	Distance learning courses are scheduled and consistent from semester to semester.	31%	18%	51%	P= .000	50.26
5	The university offers a variety of distance learning programmes that accommodate the distance learning needs of students.	28%	19%	53%	P= .000	78.10

- **Items to assess the implementation of adequate marketing plan for DL**

Students' responses showed significant disagreement in terms of items (6.1), (6.3), (6.4), (7) and (8) (see Table 6.3). This indicated that the university marketing plan wasn't able to demonstrate the importance and equivalency of the offered DL programmes compared to TL and emphasises students' requirements and expectations. These revealed similar views to those expressed by faculty and administrators in the interviews. Regarding the institution's emphasis on the students' requirement, it appears that, according to the students' comments in the additional comments section, the university website seems to be confusing when it comes to information pertinent to students' requirements and policies (seven comments in the additional comment section).

Furthermore, students' comments with regard to item (7) were centred on the idea that the university regulations were directed to traditional learning, with no interest in introducing regulations that are pertinent to DL (31 comments) and the university's failure to promote DL recognition in the job market (24 comments).

These comments lead back to the issue of the ambiguity of the MOHE regulations and the lack of communication between MOHE and MOCS to promote recognition for DL in the job market, as was revealed in the administrators' interviews and which hinder the university's efforts in this matter.

Table 6.3: Students' responses to items that assess the implementation of criteria with regard to adequate marketing plan for DL

Item	Statement	Agree	Not sure	Disagree	Sig.	χ^2
6.1	The university made it clear that distance learning is equal to traditional learning in its policies and regulations.	26%	20%	54%	P= .000	78.98
6.2	The university made it clear that distance learning is equal to traditional learning in terms of course requirements.	35%	23%	42%	P= .056	9.22
6.3	The university made it clear that distance learning is equal to traditional learning in terms of accreditation (in terms of course credits and in transferring such credits to traditional learning).	28%	20%	52%	P= .000	70.10

Item	Statement	Agree	Not sure	Disagree	Sig.	χ^2
6.4	The university made it clear that distance learning is equal to traditional learning in terms of the granting of the distance learning certificate (availability and acceptability).	29%	20%	51%	P= .000	41.28
6.5	The university made it clear that distance learning is equal to traditional learning in terms of course content and assessment.	37%	21%	42%	P= .149	6.76
	Statement	**Yes**	**No**	**Comments**	**Sig.**	χ^2
7	The university successfully emphasised the importance of distance learning to students.	39%	61%	55	P= .000	22.44
	Statement	**Agree**	**Not sure**	**Disagree**	**Sig.**	χ^2
8	The university provided distance learning information related to distance learning requirements (i.e. time, skills, technological needs…), and policies (i.e. regulations, attendance, registration and withdrawal, accreditation, certification) available and accessible.	31%	20%	49%	P= .000	30.40

- **Items to assess the implementation of DL equivalency to TL**

Students' significant disagreement on items (9.1) and (9.2) (see Table 6.4) identified many aspects of the lack of DL equivalency to TL that includes the recognition of a DL certificate and course credits and content. As expected, the students' significant agreement on item (10.2) showed agreement with all the evidence collected from faculty members, administrators and documents that revealed the equivalency of the DL and TL course content. In this regard, students' comments on item (9.1) were focused on the notion that DL courses are identical to TL courses but cannot be converted to credits in the TL system, and comments on item (9.2) that suggested that a DL certificate has lesser value compared to a TL certificate.

Table 6.4: Students' responses to items that assess the implementation of criteria of DL equivalency to TL

Item	Statement	Yes	No	Comments	Sig.	χ^2
9.1	My distance learning programme equals the traditional face-to-face programme in terms of value of the course credits.	37%	61%	26	P= .000	25.10
9.2	My distance learning programme equals the traditional face-to-face programme in terms of the value of the certificate granted.	41%	59%	14	P= .000	14.63
10.1	My distance learning programme equals the traditional face-to-face programme in terms of academic requirements with regard to the used learning materials.	48%	52%	-	P= .466	0.53
10.2	My distance learning programme equals the traditional face-to-face programme in terms of academic requirements with regard to the course content.	62%	38%	-	P= .005	27.92
10.3	My distance learning programme equals the traditional face-to-face programme in terms of academic requirements with regard to the use of different assessment methods.	49%	51%	-	P= .649	0.21

• **Chi-square test of independence for the institutional mission section items**

Chi-square test of independence was performed to examine the association between the students' characteristics in the profile section (Gender, Age, Level of education, College, DL experience) and their opinions with regard to the items relating to this section (see Appendix 9). The results showed a significant relationship between: College and item (1) χ^2 **(4, N = 482) = 21.29, p < .05** as students at the Rabigh Business School were more likely to disagree on the item (1) statement. Furthermore it showed that female participants were more likely to disagree and item (4) χ^2 **(4, N = 482) = 17.31, p < .05**. No other significant association between the students' characteristics in the profile section and their opinions with regard to the items of this section were found.

The relationship between College and item (1) indicated a lack of consistency across forms of policies, as students at the Rabigh Business School – which is located outside the university campus - were more likely to experience differences in the programme policies given the lack of cooperation between colleges that was reported earlier in the interviews (see the semi-structured interview section). This can be linked to differences in faculty members' views in the interviews, as only faculty members of the Rabigh Business School reported the use of different DL applications which might imply other differences concerning DL regulations (see faculty members' interviews) as this relationship suggested.

On the other hand, it can be suggested from the relationship between Gender and item (4) that the lack of consistency of the scheduled courses for enrolled DL students is more serious in the female colleges, which leads back to the aspect of separation between females and males in all aspects of DL which backs the argument posed by female faculty F2 who said " *We, in the female colleges, have to follow schedules made by authorities in the DDL which are not made in cooperation with DL colleges and we haven't got the means to do so… for male colleges the scheduling changes are communicated and processed more easily as they are able to be present in the DDL, but we cannot do that for obvious reasons"*.

SECTION III. Technology

To assess the quality of the current implementation of DL at the university concerning the technological aspects of DL, a chi-square test (goodness-of-fit) was performed to determine the significance of the students' opinions with regard to the16 items in the Technology section of the questionnaire, that contains statements pertinent to the criteria implementing quality DL in terms of technology.

For values of significance of <0.05, the results show a significant differences in the students' opinions. Results are classified based on aspects of quality technology implementation (see Chapter II: Figure 2.8).

- **Items to assess the implementation of accessibility to DL delivery requirements**

Confirming administrators' and faculty members' views, students' significant disagreement on item (11) (see Table 6.5) showed that the ODUS system failed to provide an application that smoothly interfaces across DL services. Additionally students' significant disagreement in terms of items (14.2) and (14.3) indicated the inadequate manageability (user-friendliness) of the DL applications used (EMES and CENTRA). Linked to this, students significantly disagreed on items (13) and (15.1) to show the inadequacy of the synchronous communication provided due to a lack of accessibility provided by the application used and the inadequacy of aids and facilities provided in the DL synchronous classes. Students' responses to items (13), (14.2), (14.3) and (15.1) contradicted the administrators' views, and agreed with faculty members' to show a convergence in views between students and faculty members in matters related to the accessibility and manageability of the DL applications used. Students' comments that addressed items that assess the implementation of criteria of accessibility to the DL Delivery requirements varied in many aspects. Comments on item (13) pinpointed the lack of manageability and accessibility of CENTRA, comments on item (14.2) addressed the continuous breakdown of applications (16 comments) and the EMES' lack of user-friendliness (23 comments) and comments on item (14.3) were concerning with the application complex tasks and inactive commands.

Table 6.5: Student responses to items that assess the implementation of criteria of accessibility to DL delivery requirements

Item	Statement	Agree	Not sure	Disagree	Sig.	χ^2
11	The ODUS system provides easy and smooth access to all academic services (i.e. course registration and withdrawal, requests, enquiries…)	33%	20%	47%	P= .000	20.11
12	DL learning materials and course content can easily be accessed through the EMES system.	37%	22%	41%	P= .430	3.83
	Statement	**Yes**	**No**	**Comments**	**Sig.**	χ^2
13	CENTRA provides adequate and easy access to synchronous classes	40%	60%	30	P= .036	20.75
14.1	ODUS is easy to use.	49%	52%	-	P= .524	.407
14.2	EMES is easy to use.	37%	63%	41	P= .002	31.90
14.3	CENTRA is easy to use.	42%	58%	18	P= .000	13.27

	Statement	Agree	Not sure	Disagree	Sig.	χ^2
15.1	During the synchronous classes, the variety of technological aids and facilities are used to enhance distance learning students' learning.	33%	20%	47%	P= .003	15.73
15.2	In the recorded learning materials, the variety of technological aids and facilities are used to enhance the students' learning.	39%	21%	40%	P= .743	1.73
	Statement	**Yes**	**No**	**Comments**	**Sig.**	χ^2
16	The university provides distance learning students with access to a variety of electronic reserves (e.g. access to regional or national library data bases).	48%	52%	22	P= .412	.672

• Items to assess the implementation of a sufficient technological infrastructure.

It can be suggested from the students' significant disagreement with regard to item (17) (see Table 6.6) that the university was unable to provide a sustainable connection through its network infrastructure. Such disagreement contradicts both faculty and administrators' views and the documented evidences on the high capacity of the university's network infrastructure. This poses a question as to the quality of the students' network coverage, speed and other issues from the students' point of view (i.e. the device they use, the operation system, the processor). This can be shown in the student comments that addressed the lack of connection sustainability on 3G and 4G broadband (31), and the applications' continuous breakdowns (27 comments).

Table 6.6: Student responses to items that assess the implementation of criteria of sufficient technological infrastructure

Item	Statement	Yes	No	Comments	Sig.	χ^2
17	The university provided a sustainable connection that enables students to access distance learning application programmes smoothly, and accommodates different internet connection speeds and methods (modem, broadband, 3G).	43%	57%	58	P= .000	9.59

• Items to assess the implementation of efficient technical support

Students' agreement on item (18) (see Table 6.7 on the next page) indicated the high capacity of the technological infrastructure to run DL classes of a high standard. This agrees with the views expressed by the interviewees. However, the students' significant disagreement on item (19) revealed that faculty members don't properly use the facilities provided in DL classes which relates to faculty member interviewees' expressed concerns with regard to the lack of training and support for faculty members on the technological aspects of DL.

Additionally, similar to both faculty members' and administrators' views, students significantly disagreed on items (21), (22) and (23) to indicate technical centre inefficiency when it comes to the provision of satisfactory response to students' enquiries through the designated channels in terms of the variety of its communication options, times and timely response. Student comments in this regard concerned the unavailability of technical support after 2 pm (21 comments) and the busy lines of the technical centre (15 comments).

Table 6.7: Student responses to items that assess the implementation of criteria of efficient technical support

Item	Statement	Agree	Not sure	Disagree	Sig.	χ^2
18	Classrooms for synchronous classes are well-facilitated with technological aids, hardware and software to meet the distance learning courses' needs.	49%	18%	33%	P= .000	55.2
19	Faculty members use classroom equipment properly to enhance students' learning.	29%	19%	52%	P= .000	40.50
20	Staff in the technical support centre are familiar with distance learning students' enquiries.	39%	17%	44%	P= .174	3.60
21	The technical support centre responds to distance learning students' enquiries in a timely fashion.	32%	19%	49%	P= .000	21.83
22	The technical support centre provides a variety of communication options (e.g. Email, phone lines, online chat, in person…).	31%	21%	48%	P= .000	23.54
	Statement	**Yes**	**No**	**Comments**	**Sig.**	χ^2
23	The technical support centre can be contacted during/in a wide range of times.	45%	55%	36	P= .036	4.39

- **Chi-square test of independence for the technology section items**

The chi-square test of independence was performed to examine the association between the students' characteristics in the profile section (Gender, Age, Level of education, College, DL experience) and their opinions with regard to the items contained in this section. The results showed a significant relationship between Gender and item (20) χ^2 **(4, N = 482) = 11.60, p < .05**, (21) χ^2 **(1, N = 482) = 10.28, p < .05** and (23) χ^2 **(1, N = 482) = 17.43, p < .05.** No other significant association between the students' characteristics in the profile section and their opinions with regard to the items of this section were found.

These associations showed clearly that female participants were more likely to disagree on items (20) and (21), and choose No to item (23). Again, as in the institutional mission dimension, the separation between female and male departments in all aspects has had a negative impact on the female service departments and colleges. Accordingly this might have made female students more prone to be negatively influenced by the inadequacy of the technical support service provided and the communication options, compared to students in the male sector.

Such a relationship leads back to the faculty members' interviews in this regard where a female faculty member F2 alluded to the fact that "*Unlike male colleges we cannot go and be present in the technological department at DDL even if it is necessary*" and another female faculty member F3 supported her argument by saying, "*The technological department is located in a male restricted area so we will have to wait for the general technical support centre response which is more likely to wait for a response from the technological department*".

SECTION IV. Instructional support

To assess the implementation of criteria for quality DL concerning the instructional support provided at the university, a chi-square test (goodness-of-fit) was performed to determine the significance of the students' opinions with regards to the eight items in the instructional support section in the questionnaire that contained statements that were pertinent to the criteria related to quality instructional support. For values of significance of <0.05, it has been found that significant differences occurred amongst students' opinions. Results are classified based on aspects of quality instructional support implementation (see Chapter II: Figure 2.8).

- **Items to assess the implementation of efficient development processes for DL courses**

Students' significant disagreement on item (24) (see Table 6.8 on the next page) showed the inefficient use of technological aids to meet the courses' needs. This seems to support the faculty members' argument about being unable to use the desired technological aids to meet the DL course needs against the views expressed by administrators. In conjunction with this, students significantly disagreed on item (25.2) to indicate that faculty members are not competent when it comes to using the CENTRA application. This supports the views revealed in the interviews that suggest the unavailability of training for faculty members as a reason for such failure.

Additionally, students' significant disagreement on items (26.1) and (26.2) indicated the inconsistency of institutional standards for the design of the DL courses. This again contradicts administrators' views and ties in with faculty members' views. Students' comments with regard to item (25.2) addressed issues concerning faculty members' disregard for the available facilities in university-designated classes for live streaming (22 comments), faculty members constant use of recorded lectures (19 comments), and faculty members excessive use of PowerPoint slides in DL course delivery (14 comments). These comments showed signs of lack of training for faculty members on the CENTRA application, but most importantly it indicated the inadequacy of the synchronous communication applied, as most comments have addressed faculty members' constant use of recorded lectures and disregard for the available designated DL classes.

Table 6.8: Student responses to items that assess the implementation of criteria of efficient development process for DL courses

Item		Agree	Not sure	Disagree	Sig.	χ^2
24	Variety of technological aids, facilities and learning materials are used differently in distance learning courses to coincide with the courses' needs.	31%	18%	51%	P= .000	64.43
		Yes	**No**	**Comments**	**Sig.**	χ^2
25.1	Faculty members are competent in performing tasks on EMES.	49%	51%	-	P= .716	0.13
25.2	Faculty members are competent in performing tasks on CENTRA.	40%	60%	55	P= .036	19.12
		Agree	**Not sure**	**Disagree**	**Sig.**	χ^2
26.1	All distance learning courses use standardised task interfaces.	29%	18%	53%	P= .000	92.13
26.2	All distance learning courses use standardised tasks.	31%	18%	51%	P= .000	57.18
26.3	All distance learning courses use standardised tools.	39%	23%	38%	P= .258	5.30

- **Items to assess the implementation of adequate provisions for instructional delivery requirements**

Results showed significant disagreement on items (27) and (28) (see Table 6.9) to indicate the unavailability of scheduled training courses with regard to DL technological aspects for students, and the lack of timely response from faculty members. This agrees with both faculty and administrators' interview findings. Students' comments in this regard were centred around the unavailability of training courses that address the skills needed for learning through DL applications (32 comments) and the lack of accessibility and clarity of the offered training courses (9 comments).

Table 6.9: Student responses to items that assess the implementation of criteria of adequate provision of instructional delivery requirements

Item		Yes	No	Comments	Sig.	χ^2
27	The university offers scheduled training for distance learning students in distance learning technological aspects.	39%	61%	41	P= .014	23.31
		Agree	**Not sure**	**Disagree**	**Sig.**	χ^2
28	Faculty members respond to distance learning students' enquiries in a timely fashion (through the EMES system).	30%	20%	50%	P= .000	36.36

- **Chi-square test of independence for the instructional support section items**

A chi-square test of independence was performed to examine the association between the students' characteristics in the profile section (Gender, Age, Level of education, College, DL experience) and their opinions with regard to the items of this section.

The results showed one significant relationship between College and item (26.1) χ^2 **(4, N = 482) = 27.07, p < .05** as students from Rabigh Business College tended to choose NO to item (26.1). No other significant association between the students' characteristics in the profile section and their opinions with regard to the items of this section were found. Such a relationship indicated a lack of consistency across forms of instructions, as students in Rabigh Business School – which is located outside the university campus - were more likely to experience differences in the courses' delivery application interface than any other college located inside the main university campus. This confirmed the views that were expressed by faculty members of the Rabigh Business School that revealed the recent use of different applications (different from those used in any other college) to deliver DL learning materials.

SECTION V. Student support

To assess the implementation of criteria with regard to quality DL concerning student support at the university, a chi-square test (goodness-of-fit) was performed to determine the significance of the students' opinions with regard to the 10 items in the student support section of the questionnaire. For values of significance of <0.05, the results showed significant differences in the students' responses. The results are presented based on aspects of the quality of students' support implementation (see Chapter II: Figure 2.8).

- **Items to assess the implementation of efficient enrolment procedures**

Students' significant disagreement with regard to item (29) (see Table 6.10 on the next page) suggested the inefficiency of the registration process, as the majority of DL students were not able to register and pay fees online.

This coincided with the view expressed by the administrator interviewees and by those involving faculty members in terms of the lack of cooperation between DL related colleges and the vagueness of the DDL role. Furthermore, students significantly disagreed on items (30) and (31). This indicates a lack of training and information about DL requirements, policies and procedures, which coincided with their responses to item (8) in the institutional mission section. Interestingly, the results showed that the majority of students significantly agreed on item (32). This significant agreement suggested that the university's efforts were focussed upon providing information about the offered courses, rather than taking into account information about DL requirements, policies, and procedures as a new form of education system, which was reported as a concern by both administrators and faculty members.

Students' comments on item (29) were directed towards the notion that DL students need to be present in the related college to pay.

Table 6.10: Student responses to items that assess the implementation of criteria of efficient enrolment procedures

Item		Yes	No	Comments	Sig.	χ^2
29	Distance learning students can register and pay online.	45%	55%	88	P= .018	5.61
		Agree	**Not sure**	**Disagree**	**Sig.**	χ^2
30	The university offers training courses about distance learning requirements, policies and procedures.	30%	20%	50%	P= .000	28.56
31	Information about distance learning requirements, policies and procedures are available through many formats (e.g. websites, pamphlets, CD…etc.)	30%	17%	53%	P= .000	41.34
32	The university website provides detailed information about the offered distance learning courses (e.g. scheduled courses, class times, synchronous communication availability…).	58%	12%	30%	P= .000	107.19

- **Items to assess the implementation of accessibility to on-ground and online testing services for DL students**

Results showed that students were significantly not sure on item (33) (see Table 6.11 on the next page). This may be due to the lack of information provided by the university to the DL students as indicated in students' answers to items (30), (31) and (8). In conjunction with this, students' disagreement on item (34) indicated that the university was not able to provide adequate access to career and professional development for DL students, which agreed with the administrators' views. Related to this, students significantly disagreed on item (35) to indicate the insufficiency of the online testing service provided. Since this disagreement challenged the administrators' views and supported those of faculty members on this matter, it raised questions about the efficiency of the DL applications used. Given the high capacity of the university network as reported by administrators, faculty members and documentation, the answer to this question lies in the lack of efficiency of the DL application (EMES) used in conducting online testing as illustrated by the students' disagreement on item (14.2) and their comments on its continuous breakdown and lack of user-friendless. Finally in this regard, the university's inability to recognise and respond to students' needs through collaboration between the student service centre and the DL services' departments was reflected through students' significant disagreement on items (36), (37) and (38). This confirmed views expressed in both administrators' and faculty members' interviews that indicated a lack of cooperation between DL service departments.

Table 6.11: Student responses to items that assess the implementation of criteria of accessibility to on-ground and online testing services for DL students

Item		Agree	Not sure	Disagree	Sig.	χ^2
33	The university provides distance learning students with access to the on-campus university library services in parallel with the provided library online access.	20%	55%	25%	P= .000	379.27
34	The university provides distance learning students with access to activities related to career and professional development (e.g. networking, training, conferences, and workshops).	30%	19%	51%	P= .000	34.56
35	Online testing services accommodate a range of distance learning students' internet speeds.	28%	16%	56%	P= .000	56.51
36	Distance learning students' needs and enquiries are responded to by the students' service department.	18%	17%	55%	P= .000	56.98
37	The student service centre enables distance learning students to acquire services from other service departments with no need to directly contact the concerned service department.	27%	16%	57%	P= .000	70.37
38	Student service centre procedures are recognised by other distance learning service departments.	26%	16%	58%	P= .000	75.53

- **Chi-square test of independence for the students support section items**

The chi-square test of independence was performed to examine the association between the students' characteristics (Gender, Age, Level of education, College, DL experience) and their opinions with regard to the items of this section. Interestingly, the results show a significant relationship between age and item (35) χ^2 **(4, N = 482) = 16.23, p < .05** as participants aged more than 45 were more likely to disagree on the online testing services' ability to accommodate a range of distance learning students' internet speeds. This might be due to their unfamiliarity with technological issues related to internet speeds, or the procedures associated with submitting an online test. No other significant association between the students' characteristics in the profile section and their opinions with regard to the items of this section were found.

SECTION VI. Evaluation

To assess the implementation of the criteria of quality DL concerning evaluation at the university, a chi-square test (goodness-of-fit) was performed to determine the significance of the students' opinions with regard to eight items in the evaluation section of the questionnaire. For values of significance of <0.05, it has been found that significant differences occurred in terms of students' opinions.

The results are presented based on aspects of quality evaluation implementation (see Chapter II: Figure 2.8).

• Items to assess the implementation of efficient evaluation scheme for DL programmes

The results showed that students significantly disagreed on items (39) (40.1), (40.4) and (40.5) (see Table 6.12) to indicate that the university failed to solicit input from students regarding DL, policies, services and faculty members' performance. The students' disagreement on the aforementioned four items coincided with faculty members' views to indicate the efficiency of the employed methods to seek feedback from DL recipients (faculty members and students).

Table 6.12: Student responses to items that assess the implementation of criteria of efficient evaluation scheme for DL programmes

Item		Agree	Not sure	Disagree	Sig.	χ^2
39	The university offers the distance learning students' channels (i.e. student service feedback, forums, links…) to communicate their needs.	28%	20%	52%	P= .000	47.92
		Yes	**No**	**Comments**	**Sig.**	χ^2
40.1	The university seeks distance learning students' feedback with regard to the applied DL policies.	29%	71%	-	P= .036	88.04
40.2	The university seeks distance learning students' feedback with regard to the DL delivery systems used and their applications.	46%	54%	-	P= .585	3.66
40.3	The university seeks distance learning students' feedback with regard to the DL materials used.	46%	54%	-	P= .083	3.00
40.4	The university seeks distance learning students' feedback with regard to DL faculty members' performance.	36%	64%	-	P= .029	39.51
40.5	The university seeks distance learning students' feedback with regard to the DL academic services provided.	37%	63%	-	P= .018	30.88

• Items to assess the implementation of effective assessment for DL students

The results showed significant disagreement on item (41) (see Table 6.13 on the next page) which again challenged administrators' views and agreed with faculty members' views to indicate the limitations in the assessment methods used to assess students' outcomes (see student disagreement to previous items). Moreover, students' significant disagreement on item (42) indicated that, in the final examination, a variety of question types were used which agreed with both administrators' and faculty members' views, and indicated a successful implementation of the criterion of an effective final examination for DL students.

However, one student wrote an interesting comment addressing the use of paper exams for DL students in the examination centres does not reflect the nature of DL "*Dear teachers: if I wanted a paper exam I wouldn't have applied to the DL system!!! Thank you*". In this regard, students' comments on item (41) pinpointed, in agreement with faculty members' views, that online exams and attendance monitoring is not practical for DL students. Comments on item (42) addressed the peculiarity of the use of paper forms in DL (7 comments).

Table 6.13: Student responses to items that assess the implementation of criteria of effective assessment for DL students

Item		Yes	No	Comments	Sig.	χ^2
41	The university applies a variety of assessment methods (i.e. assignments, group works, online testing, quizzes…) to assess DL students.	37%	63%	37	P= .000	33.99
42	The final examination for DL students consists of a variety of questions, not only multiple-choice questions.	44%	56%	7	P= .006	7.47

- **Chi-square test of independence for the evaluation section items**

In conjunction with the aforementioned results, a chi-square test of independence was performed to examine the association between the students' characteristics (Gender, Age, Level of education, College, DL experience) and their opinions with regard to the items of this section. The results showed a significant relationship between Gender and item (41) χ^2 **(1, N = 482) = 24.09, p < .05** as female participants were more likely to disagree on this item. Given that female students are in some cases taught by male faculty members, the complete separation of the Saudi male/female classes implies the absence of female-to-female interaction which seems to have its impact on the perceived use of the assessment methods.

Female students' comments in this section suggested many reasons that may shed light on the significant relationship between Gender and item (41) such as: shyness when it comes to dealing with male faculty members (17 comments), consideration with regard to the imposed cultural separation (13 comments), inadequate engagement of male faculty members (9 comments) and lack of clarity in terms of instructions and assessment on the part of the male faculty members (6 comments) (see the comments section below). No other significant association between the students' characteristics in the profile section and their opinions with regard to the items of this section were found.

SECTION VII. Students' comments

The comment section was devoted to students' comments or ideas that are pertinent to the study topic, and can be used to develop a better understanding of DL students' needs in Saudi Arabia. The disparity in terms of the students' comments have enriched the understanding and interpretation of the study (in the event that they addressed issues related to an item in the survey) and draw the study's attention to the many difficulties that face DL students at the university.

Students' comments were counted after being analyzed and organized thematically (comments that fell into the same category/theme were counted and the main patterns/ideas were summarized) to support the statistical results with a plausible picture of students' written responses. Comments that were related to any of the survey items were presented in line with each item to complement and clarify what has been shown by the statistics. The rest of the comments relating to the study topic have raised issues concerning the need for more regional examination centres (24), the incompatibility of the DL applications used with a MAC environment (11), the high DL fees compared to TL fees (9) and the lack of clarity and accessibility of the information provided in the university website (7). In the aforementioned issues/comments there was quite a balance between students' characteristics and their comments, as no issues were specifically raised by particular groups. However, female participants in particular have expressed concerns regarding female classes that are taught by male faculty members (see the evaluation section: chi-square test).

6.2.3 Main findings of the student survey

The student survey findings showed a greater tendency to agree with faculty members' interviews finding than with administrators. This was as anticipated, given the educational environment settings where faculty members are more engaged with the students. However, the overall results didn't show significant contradictions with other collected evidence, with only two exceptions regarding the university technological infrastructure and the online testing services (see the Technology and Student Support sections). Moreover, interesting results were discovered to indicate an association between gender and items in terms of the Institutional Mission, Technology and Evaluation sections; College/department and items in the Institutional Mission and Instructional Support; age and items in the Student Support section (see chi-square test results of the students' survey sections).

The assessment of the implementation of quality DL at the university from the students' responses in the survey indicated the 12 barriers existed. These are listed below:

- Lack of sufficient authority
- Inadequate course scheduling and provision in terms of the needed DL programmes/degrees
- Inadequate marketing plan for DL
- Inadequate equivalency to TL
- Inadequate accessibility to DL delivery requirements
- Inadequate technical support
- Inefficient development processes for DL courses
- Insufficient provision of instructional delivery requirements
- Inefficient students enrolment procedures
- Inadequate accessibility to on-ground services for DL students
- Inefficient evaluation scheme for DL programmes
- Ineffective evaluation processes for DL students

Moreover, Spearman's rho test was used to assess the strength and type of relationships between the students' responses to selected survey items in order to compare them with relationships that were identified in the administrators' and faculty members' interviews (see Table 6.14).

Table 6.14: Spearman's rho test results

Items	Suggested relationship	Strength	Type	Previously found in	Sig	r_2
2 α 11	The vagueness of the DDL role and the absence of the integration between DL applications	Strong	Positive	Administrators' interviews	P=.000	0.674
3 α 11	Lack of cooperation between DL departments, colleges and DDL, and the absence of the integration between DL applications	Strong	Positive	Administrators' interviews	P=.000	0.617
2 α 15.1	The vagueness of the DDL role and the inadequacy of the applied level of synchronous communication	Moderate	Positive	Administrators' and faculty members' interviews	P=.000	0.572
2 α 28	The vagueness of the DDL role and the inadequacy of faculty members' responses to student enquiries, assignments and test grading	Strong	Positive	Administrators' and faculty members' interviews	P=.000	0.716

Items	Suggested relationship	Strength	Type	Previously found in	Sig	r_2
3 α 34	Lack of cooperation between DL departments, colleges and DDL, and the inadequacy of the accessibility provided to career and professional development	Strong	Positive	Administrators' interviews	P=.000	0.513
3 α 36	Lack of cooperation between DL departments, colleges and DDL, and the lack of recognition and response to students' needs through student service departments	Moderate	Positive	Administrators' interviews	P=.000	0.558
3 α 37	Lack of cooperation between DL departments, colleges and DDL, and the lack of recognition and response to students' needs through student service departments	Moderate	Positive	Administrators' and faculty members' interviews	P=.000	**0.522**
3 α 38	Lack of cooperation between DL departments, colleges and DDL, and the lack of recognition and response to students' needs through student service departments	Moderate	Positive	Administrators and faculty members	P=.000	**0.505**

This demonstrates that the relationships that were found previously in the interviews were reflected significantly in the students' responses. This adds to the trustworthiness of the study's analysis and conclusions.

6.3 THE DELPHI SURVEY

The last step of the study aimed to validate the proposed solutions and create a pathway that guides the construction of a devised strategic approach to the implementation of quality DL in Saudi Arabia (see Chapter IV: the Delphi survey). Thirteen participants agreed to participate in the survey and the researcher ended up with 10 participants (8 male; 2 female) who continued to the end of the survey rounds. This is an adequate number of experts for the Delphi survey findings to be acceptable (Delbecq, Van de Ven and Gustafson, 1975; Hsu and Sandford, 2007a). After review by three experts (see Chapter IV; the Delphi survey), the final draft of the survey contained 22 proposed solutions based on conclusions drawn from the study findings (see Chapter VII: the sixth objective) to improve the implementation of quality DL. These were categorised under six different categories; 4 items in the institutional mission category, 4 items in the technology category, 4 items in the instructional support category, 3 items in the faculty support category, 4 items in the students support category and 3 items in the evaluation category, respectively (see Appendix 3). A detailed account of solutions proposed by the study and their related dimensions and barriers is appended (see Appendix 8).

The process of conducting the Delphi survey utilised steps identified by Hsu and Sandford (2007b). In the first round of the Delphi survey, the panellists/respondents were asked to rank items of the survey based on 1-7 point Likert scale as suggested by Vagias and Wade (2006) where 1= "Strongly agree", 2= "Agree", 3= "Somewhat agree", 4= "Neither agree nor disagree", 5= "Somewhat disagree", 6= "Disagree" and 7= "Strongly disagree". The median and interquartile range (IQR) was calculated to determine items that achieved consensus, and the remaining items were re-sent to the respondents. In the second round, each panel member was provided with a reminder of his/her previous responses, the median and the IQR of the group responses, and was kindly asked to reflect on his/her previous responses. The same calculations were carried out after the second round, and the same procedure was repeated in the third round.

6.3.1 Method of Analysis

Two statistics were used to determine consensus amongst the group. Firstly the median was computed to indicate the midpoint value with regard to the respondents' ranking of each item (50% of the panel members indicated their agreement or disagreement on the item). Secondly, the interquartile range (IQR) was computed to measure the spread of the data set in order to exclude outliers (variations in terms of the group responses from the middle score). Together, a median value of 2 or less, and an IQR value of 1.5 or less indicated consensus on agreement and was excluded in the next round of the survey. In contrast, a median value of 6 or above and an IQR of 1.5 or less, indicated consensus on disagreement and the item was eliminated from the survey in the next round (Hsu and Sandford, 2007a).

After computing the results from the first round, items that didn't achieve a consensus on either agreement or disagreement were sent again to the panellists with the results (median and IQR) of the first round included, and they were asked to kindly reflect on their previous ratings prior to making any choices. The same calculations were conducted with the second round results, and the remaining items were sent again in a third and final round. On the third round, results from the first and the second rounds were sent to the panellists and they were asked to reflect on their responses again prior to making any decisions on their ratings. Finally, a set of solutions that received consensus agreement on the part of the panellists in any of the three rounds was created to indicate the validity of the solutions proposed by the study (see the Delphi survey main findings).

6.3.2 The Delphi Survey results

The aim for conducting the Delphi Survey was to validate the study's proposed solutions by seeking expert consensus agreement on a set of solutions proposed by the study as a means of implementing quality DL in Saudi Arabia. Kalaian and Kasim (2012) suggest that after three rounds of the Delphi Survey the advantage of the iteration process starts to diminish. Therefore, three rounds of the Delphi survey were administered in this study and an SPSS application program was used to calculate the median and the IQR for the group responses on each item of the survey. The results of the Delphi Survey are presented in the light of the survey's three rounds.

I. The first round of the Delphi Survey

On the first round of the Delphi survey, 13 experts were asked to rank items of the survey based on a 1-7 point Likert scale. An optional space was added for the participants' comments (see Appendix 3). Items that received a rating median of 2 or less (50% of the experts indicated their agreement on the factor by either choosing strongly agree or agree) and achieved an IQR of 1.5 or less (indicating a minimal variation) were considered agreed upon and excluded from the second round. On the other hand, items that received a rating median of 6 or above, and achieved an IQR of 1.5 or less were considered disagreed upon and excluded from the second round. In the first round, only 10 experts returned the survey out of the 13 experts contacted.

The experts' responses indicated an agreement consensus on 15 items, and no consensus was achieved on any item to indicate a consensus on disagreement. Some of the remaining seven items were near consensus with a median value of 2 or less (items: 3) or an IQR of 1.5 or less (items: 11, 16, and 21) but didn't achieve the determined threshold (a median of 2 or less/6 or above + IQR of 1.5 or less). However, they achieved consensus on the next round (see Table 6.15 on the next page). Table 6.16 (also on the next page and the page after it) shows items that achieved consensus on the first round.

Table 6.15: Items that achieved near consensus in the first round of the Delphi survey

No	Statement (proposed solution)	Median	IQR	Consensus
3	The introduction of regulations by the Ministry of Higher Education that communicate the importance and validity of DL certificates in the job market is necessary to attract more DL students and faculty members, which in turn enable the university to create more degrees	**2.00**	**2.00**	2nd round
11	The recognition of the Deanship of Distance Learning role and full responsibility for providing adequate training for DL students and faculty members helps promote DL activities related to the use of DL applications (e.g. levels of synchronous communication, participations in course-related forums…)	**2.50**	**1.25**	2nd round
16	The promotion of the Deanship of Distance Learning role (as the central authority for all DL regulations at the university) enforces cooperation between DL departments and colleges, and entails more consistency in the DL regulations which helps the Deanship of Distance Learning to unify the registration process for DL students.	**2.50**	**1.50**	2nd round
21	The introduction of clear regulations by the Ministry of Higher Education that address budgets provides administrators with the wherewithal to ensure an evaluation scheme that is parallel to TL schemes in terms of consistency, regularity and procedures.	**2.50**	**1.00**	2nd round

Table 6.16: Items that achieved consensus in the first round of the Delphi survey

No	Statement (proposed solution)	Median	IQR
1	The introduction of regulations by the Ministry of Higher Education that define the Deanship of Distance Learning role in Saudi universities is a necessity in order to solidify the Deanship of Distance Learning role as the legitimate centre for DL regulations in Saudi universities in order to promote the consistency of DL regulations at the university and enforce cooperation between DL colleges and departments.	**1.50**	**1.00**
2	The introduction of regulations by the Ministry of Higher Education that regulate a national marketing plan is necessary to attract more DL students and faculty members and to enable the university to create more degrees.	**2.00**	**1.25**
4	The introduction of regulations by the Ministry of Higher Education that address DL budgets helps the Deanship of Distance Learning to receive a designated financial budget to improve the current implementation of DL marketing and course scheduling schemes.	**1.50**	**1.00**
6	The introduction of regulations by the Ministry of Higher Education that encourages regional college relationship helps to provide greater accessibility to a variety of electronic reserves across all Saudi universities.	**2.00**	**1.25**
7	The establishment of a designated course development department and the employment of the so-called Saudization plan, present cost-effective solutions that help organise course development and the restoration process in Saudi universities.	**2.00**	**1.50**
9	The active engagement of faculty members in the development process for DL courses which entails the provision of training, assistance, and time for them to design and use the technology that meets the courses' needs.	**2.00**	**1.25**
12	The introduction of regulations by the Ministry of Higher Education that communicates recognition and provision of time for faculty members to engage in DL activities related to DL instructional methods contributes to encouraging faculty members to provide a timely response to DL student and to engage in DL-related activities.	**2.00**	**1.00**

No	Statement (proposed solution)	Median	IQR
13	The promotion of the Deanship of Distance Learning role (as the central authority for all DL regulations at the university) promotes the Deanship of Distance Learning's ability to reward faculty members for their participation, innovation and performance in the DL field.	**1.50**	**1.00**
14	The introduction of clear regulations by the Ministry of Higher Education that address DL faculty members' rewards promotes the Deanship of Distance Learning's ability to reward faculty members (career-wise) for their participation, innovation and performance in the DL field.	**1.50**	**1.00**
15	The introduction of regulations by the Ministry of Higher Education that address DL budgets promotes the Deanship of Distance Learning's ability to financially reward faculty members for their participation, innovation and performance in the DL field.	**2.00**	**1.00**
17	The promotion of the Deanship of Distance Learning role (as the central authority for all DL regulations at the university) enforces cooperation between DL departments and colleges and entails more consistency in the DL regulations which helps the Deanship of Distance Learning to oblige DL colleges to communicate any activities related to students' career and professional developments to the Deanship of Distance Learning to be able to disseminate such activities to DL students in the concerned colleges.	**1.50**	**1.00**
18	The promotion of the Deanship of Distance Learning role (as the central authority for all DL regulations at the university) enforces cooperation between DL departments and improves recognition and responses to students' needs through student service departments.	**1.50**	**1.00**
19	Online testing services on the part of the Deanship of Distance Learning ought to benefit from enforcing cooperation between DL departments and colleges and the Deanship of Distance Learning by providing a controlled channel that allows online products (that include online testing) to be enhanced based on collaborative efforts between the DL technological department and DL colleges and service departments.	**2.00**	**0.25**
20	The introduction of clear regulations by the Ministry of Higher Education that address DL evaluation schemes provides administrators with the wherewithal to ensure an evaluation scheme that is parallel to TL schemes in terms of consistency, regularity and procedures.	**2.00**	**1.25**
22	Providing freedom to faculty members to actively engage in development processes in terms of designing assessment methods and courses for their DL classes, contributes to the construction of effective assessment tools for DL student outcomes.	**2.00**	**1.25**

II. The second round of the Delphi Survey

The second round of the Delphi Survey consisted of seven items sent to the 10 experts who responded. Each expert was provided with a reminder of his previous response, the median and the IQR of the group responses, and was kindly asked to reflect on his previous response before making any decision on this round (see Appendix 7). An example of the information provided to participants is demonstrated in Table 6.17 on the next page. In this round, all the participants returned the survey with four more items reaching consensus, mostly in the case of the ones with lower median and IQR (see the first round results) to indicate that experts moved towards agreement in the second round.

It is worth mentioning that one from the remaining items (item 10) showed a reduction in the IQR to achieve 1.25 (the acceptable IQR brink) which made it near consensus.

As expected, this item was the only item that achieved consensus on the third/final round. No consensus was achieved on disagreement with regard to any item. Table 6.18 demonstrates items that achieved consensus with their median and IQR.

Table 6.17: Example of information sent to the experts in the second round

Respondents' ratings on the first round of the survey			
Items	**Your rating**	**Group Median** **2 or less = Agreement** **6 or above = Disagreement** (50% of the experts indicated their agreement or disagreement on the item)	**Group IQR** **1.5 or less = acceptable** (variation of the group responses from the middle score)
3	3	**2.00**	**2.00**
5	6	**3.00**	**2.00**
8	3	**3.00**	**2.25**
10	4	**3.50**	**2.25**
11	1	**2.50**	**1.25**
16	3	**2.50**	**1.50**
21	3	**2.50**	**1.00**

Table 6.18: Items that reached consensus in the second round

No	Statement (proposed solution)	Median	IQR
3	The introduction of regulations by the Ministry of Higher Education that communicate the importance and validity of DL certificates in the job market is necessary to attract more DL students and faculty members, which in turn enables the university to create more degrees	**1.50**	**1.25**
11	The recognition of the Deanship of Distance Learning's role and full responsibility for providing adequate training for DL students and faculty members helps promote DL activities related to the use of DL applications (e.g. levels of synchronous communication, participations in courses related forums…)	**2.00**	**1.25**
16	The promotion of the Deanship of Distance Learning's role (as the central authority for all DL regulations at the university) enforces cooperation between DL departments and colleges and entails more consistency in terms of DL regulations, which helps the Deanship of Distance Learning to unify the registration process for DL students.	**2.00**	**1.25**
21	The introduction of clear regulations by the Ministry of Higher Education that address budget provides administrators with the wherewithal to ensure evaluation schemes that are parallel to TL schemes in terms of consistency, regularity and procedures.	**2.00**	**0.50**

III. The third round of the Delphi Survey

Respondents in the third round were asked to rate the remaining items/solutions. Although more information was provided to the panellists in the third round (their responses in all the previous rounds, the median and the IQR of the group responses in the last two rounds and information gained from the respondents' reflection in the second round) (see Table 6.19 on the next page), only one item has received consensus from the experts (see Table 6.20 on the next page).

This echoes Kalaian and Kasim (2012) view that by the third round the advantage of the iteration process starts to diminish which reduces the effectiveness of running more rounds of the same survey. No consensus was reached on any item to indicate disagreement.

Table 6.19: Example of information sent to the experts in the third round

Respondents' previous ratings						
Items	**Your rating**		**Group Median** **2 or less = Agreement** **6 or above = Disagreement** (50% of the experts indicated their agreement or disagreement on the item)		**Group IQR** **1.5 or less = Acceptable** (variation of the group responses from the middle score)	
	1st round	**2nd round**	**1st round**	**2nd round**	**1st round**	**2nd round**
5	6	5	**3.00**	**3.00**	**2.00**	**2.25**
8	3	3	**3.00**	**3.50**	**2.25**	**2.00**
10	4	2	**3.50**	**2.50**	**2.25**	**1.25**
5	**Related comments ######################**					
8	**Related comments ######################**					
10	**Related comments ######################**					

Table 6.20: Item that reached consensus in the third round

No	Statement (proposed solution)	Median	IQR
10	The designation of a course development department and the employment of the so-called "Saudization" plan sustain the consistency of the institutional standards applied in the development of the DL courses.	**2.00**	**1.25**

6.3.3 Main findings of the Delphi Survey

A three rounds Delphi Survey was conducted with 10 experts who persisted and responded throughout the process. The study has benefited from the use and the sampling choices of the Delphi Survey in more than one dimension. Firstly, the fact that the participants were experts who hold leadership positions in different institutions from around the country, added more transferability to the study conclusions and findings. In other words, the use of the Delphi Survey in validating the study solutions helped the study in turn to validate findings from the other data collection techniques used in this study, as this validation stemmed from independent experts from different institutions. Secondly, the fact that the final results showed that 21 solutions have achieved consensus and that no item has reached consensus or near consensus disagreement (higher median was 3.5) indicates the validity of the solutions listed in the Delphi Survey. Table 6.21 on the next two pages shows the final list of the study's proposed solutions that achieved consensus.

Table 6.21: Final list of items that achieved consensus

No	Statement (proposed solution)	Median	IQR
1	The introduction of regulations by the Ministry of Higher Education that define the Deanship of Distance Learning role in Saudi universities is a necessity in terms of solidifying the Deanship of Distance Learning role as the legitimate centre for DL regulations in Saudi universities to promote the consistency of DL regulations at university and to enforce cooperation between DL colleges and departments.	**1.50**	**1.00**
2	The introduction of regulations by the Ministry of Higher Education that regulate a national marketing plan in order to attract more DL students and faculty members and to enable the university to create more degrees.	**2.00**	**1.25**
3	The introduction of regulations by the Ministry of Higher Education that communicate the importance and validity of DL certificates in the job market is necessary to attract more DL students and faculty members, which in turn enables the university to create more degrees	**1.50**	**1.25**
4	The introduction of regulations by the Ministry of Higher Education that address DL budget helps the Deanship of Distance Learning to receive a designated financial budget to improve the current implementation of DL marketing and course scheduling schemes.	**1.50**	**1.00**
6	The introduction of regulations by the Ministry of Higher Education that encourages regional college relationships helps to provide more accessibility to a variety of electronic resources across all Saudi universities.	**2.00**	**1.25**
7	The establishment of a designated course development department and the employment of the so-called Saudization plan presents cost-effective solutions that help organise course development and the restoration process at Saudi universities.	**2.00**	**1.50**
9	The active engagement of faculty members in the development of DL courses entails the provision of training, assistance, and time, for them to design and use the technology that meet the courses' needs.	**2.00**	**1.25**
10	The designation of a course development department and the employment of the so-called "Saudization" plan sustains the consistency of institutional standards applied in the development of DL courses.	**2.00**	**1.25**
11	The recognition of the Deanship of Distance Learning's role and the provision of full responsibility for providing adequate training for DL students and faculty members helps promote DL activities related to the use of DL applications (e.g. levels of synchronous communication, participations in course-related forums)	**2.00**	**1.25**
12	The introduction of regulations by the Ministry of Higher Education that communicate recognition and the provision of time for faculty members to engage in DL activities related to DL instructional methods contributes to encouraging faculty members to provide a timely response to DL students and to engage in DL-related activities.	**2.00**	**1.00**
13	The promotion of the Deanship of Distance Learning role (as the central authority for all DL regulations at the university) promotes the Deanship of Distance Learning's ability to reward faculty members for their participation, innovation and performance in the DL field.	**1.50**	**1.00**
14	The introduction of clear regulations by the Ministry of Higher Education that addresses DL faculty members' rewards promotes the Deanship of Distance Learning's ability to reward faculty members (career-wise) for their participation, innovation and performance in the DL field.	**1.50**	**1.00**
15	The introduction of regulations by the Ministry of Higher Education that address DL budgets promotes the Deanship of Distance Learning ability to financially reward faculty members for their participation, innovation and performance in the DL field.	**2.00**	**1.00**
16	The promotion of the Deanship of Distance Learning's role (as the central authority for all DL regulations at the university) enforces cooperation between DL departments and colleges, and entails more consistency in the DL regulations which helps the Deanship of Distance Learning to unify the registration process for DL students.	**2.00**	**1.25**

No	Statement (proposed solution)	Median	IQR
17	The promotion of the Deanship of Distance Learning's role (as the central authority for all DL regulations at the university) enforces cooperation between DL departments and colleges, and entails more consistency in terms of the DL regulations which helps the Deanship of Distance Learning to oblige DL colleges to communicate any activities related to students' career and professional developments to the Deanship of Distance Learning to be able to disseminate such activities to DL students in the colleges involved.	**1.50**	**1.00**
18	The promotion of the Deanship of Distance Learning's role (as the central authority for all DL regulations at the university) enforces cooperation between DL departments, and improves recognition and responses to students' needs through student service departments.	**1.50**	**1.00**
19	Online testing services as part of the Deanship of Distance Learning ought to benefit from enforcing cooperation between DL departments and colleges and the Deanship of Distance Learning by opening a controlled channel that allows online products (that include online testing) to be enhanced, based on collaborative efforts between DL technological departments and DL colleges and service departments.	**2.00**	**0.25**
21	The introduction of clear regulations by the Ministry of Higher Education that address budget provides administrators with the wherewithal to ensure evaluation scheme that parallel those that are associated with TL schemes in terms of consistency, regularity and procedures.	**2.00**	**0.50**
20	The introduction of clear regulations by the Ministry of Higher Education that address DL evaluation schemes provides administrators with the wherewithal to ensure evaluation schemes that parallel to TL schemes in terms of consistency, regularity and procedures.	**2.00**	**1.25**
22	Providing freedom to faculty members to actively engage in the development process of designing assessment methods and courses for their DL classes contributes for the construction of effective assessment tools for DL student outcomes.	**2.00**	**1.25**

6.4 SUMMARY AND CONCLUSION

The use of a students' survey in this chapter has helped to assess the implementation of quality DL from the perspective of DL students at the university. This assessment has contributed to the achievement of the study's fifth objective in terms of its endeavours to assess the implementation of quality DL from the perspective of DL stakeholders at the university under consideration in order to identify barriers to the implementation of quality DL in Saudi Arabia. Although a comparison between the student survey findings and the interview findings has showed general agreement with other stakeholders' views (administrators and faculty members), it indicated tendencies to agree with faculty member interviewee views more than those of administrators.

The use of the Delphi Survey on the other hand has helped the researcher in his attempt to devise a strategic approach to the implementation of quality DL in Saudi Arabia (the sixth objective). It provided a valuable validation tool for the study's proposed solutions that indicate the validity of 21 solutions to the implementation of quality DL in Saudi Arabia. In the next chapter the findings of the study are discussed in the light of the study's six objectives, and the study's main findings, conclusions, limitations, beneficiaries and future work.

CHAPTER VII

DISCUSSION AND CONCLUSIONS

7.1 INTRODUCTION

This chapter discusses the findings resulting from the study investigation. The study's main findings are discussed in relation to the original study objectives to reflect the achievements and progression towards its main aim. This chapter is divided into seven sections. The first section discusses the study findings in relation to its five objectives followed by the study's main findings, conclusion, limitations, contribution to the knowledge and recommendations.

7.2 DISCUSSION OF THE STUDY OBJECTIVES

This section discusses the study's findings in the light of its six objectives:

7.2.1 The study's first objective: to develop an understanding of the definition of DL concepts and the historical development to date.

Given the use of different terms to describe DL in the literature and the emergence of different methods of instructional delivery, DL definitions overlap with many others concerning the delivery of instructions using technology such as online learning and e-learning. The review of the definitions related to DL, that included, but were not limited to online learning and e-learning, indicated that the term 'DL' reflects a broader and more general term that describes delivering learning or teaching at a distance. It suggested that DL can be defined as a comprehensive education delivery system that encompasses both online learning and e-learning in its approach to deliver education to students at a distance.

Moreover, the constant development of DL through many stages has contributed in shaping the current status of DL. Therefore, the establishment of a clear picture of the DL historical development is necessary to capture DL features and characteristics that have developed over time and their related practices. The review of the stages of DL historical development suggested that DL has evolved through four phases that have influenced the emergence of eight modes of delivering DL. Although the concept of learning at a distance remained the same in all the DL development phases, the practices and methods to deliver education has undergone drastic changes. Practices in the different DL modes have shed light on techniques used by DL institutions around the world that help to overcome barriers related to the unavailability of adequate tools or technology.

Methods to deliver DL have highlighted many strategies that have varied from simple text-based correspondence to the use of sophisticated methods of delivery such as virtual classes, live streaming, conference meetings and TV channels. Changes in the practices and methods of delivering education at a distance have entailed the construction of benchmark quality criteria to ensure the quality of the provided DL programmes which focused on the achievement of the second objective. With this in mind, the achievement of the study's first objective has resulted in providing a clear definition of DL and shed light on its main characteristics. Most importantly, it has revealed that the concept of delivering education at a distance persisted through all phases in the development of DL and the core elements of DL define the essential dimensions of its quality.

7.2.2 The study's second objective: to develop a conceptual framework that underpins the criteria for quality implementation of DL programmes.

To achieve this objective, an understanding of the key elements of DL was essential. Therefore, the review of the literature has addressed DL applications through different pedagogical and theoretical lenses. This has revealed that, in spite of the differences in approaches and applications of DL by the different pedagogies, six key dimensions were considered in all the reviewed pedagogies of DL. These key dimensions were: institution mission, technology, instructional support, evaluation, faculty and student support which have constituted the study's proposed six dimensions. This helped the study to construct the base (main themes/categories) of its analytical thematic review in the next stage.

The next stage of the literature review was centred on identifying quality aspects in DL programmes. In doing so, the study strived to define the quality in and determine the aspects of quality DL in the light of the previously discovered six main elements/dimensions. In doing so, the review of the literature focused on addressing examples of the two predominant approaches for describing the optimum use of DL components to deliver sustainable and quality DL. Six examples of DL system models were discussed. These have resulted in 14 aspects of quality DL with four aspects concerning the institutional mission, three aspects related to technology, two aspects pertinent to instructional support, student support and evaluation and, finally, one aspect concerning faculty support. The final stage of the literature review in the first chapter was concerned with reviewing quality standards of DL issued by the 16 international accreditation bodies in an attempt to establish a detailed account of DL quality benchmarks.

Despite the slight shift in focus of the criteria produced by the different accreditation bodies, standards of DL quality did not vary significantly. This has enabled the study to conclude with a conceptual framework (see Chapter II: the study conceptual framework) that encompassed six DL core dimensions/elements (as the primary themes) underpinned by 14 aspects of quality DL (as the subthemes) and 42 patterns of DL criteria of quality (as the detailed indicators/standards of quality).

7.2.3 The third study objective: to explore the current status of approaches to implementing quality DL programmes in general and in Saudi Arabia in particular.

The review of the experience of international leading DL universities revealed that a pattern of characteristics is shared by all the reviewed examples. This pattern was the application of criteria of quality DL. Despite their different approaches to the implementation of quality DL programmes, which can be ascribed to issues related to the available technology and funds, the reviewed universities have utilised different strategies to sustain the high level of quality in their DL programmes . These strategies highlighted solutions that can be adopted to implement quality DL learning which included, but were not limited to, universities group collation and the adaptation of different modes of DL. In conjunction with this, the study's thematic approach to examining the implemented quality in the reviewed global DL universities through the use of the study's evaluative framework has showed the validity of the criteria used to conduct such a review as it has covered all aspects of the implemented quality.

On the other hand, as the study literature review progressed to review the current Saudi educational system, it was revealed that the country has great potential for developing a leading DL experience in the Middle East and identified a gap between the available resources and the current low quality of the provided DL in the country. Such a gap was supported by the great advantages of implementing quality DL in offering an alternative educational system (as opposed to the conventional face-to-face system) that has the potential of solving many problems that face the country's higher education, related to student numbers, geographical location, gender and financial burden on the Saudi government. In conjunction with this, the review of attempts of the four leading Saudi DL universities showed consistency in characteristics and approaches in the provision of DL in the country which highlighted the status of the Saudi universities that work under the same umbrella and are funded and regulated by the same rules and policies of the Ministry of Higher Education.

This finding has underpinned the study argument that investigating the quality of the implemented DL in one of the leading Saudi DL universities can reflect a valid status of the current quality of DL programmes in the country.

The review of DL barriers globally and locally indicated that the inadequate quality of the offered DL programmes can create many barriers that negatively influence the attitudes of DL stakeholders (administrators, faculty members and students) towards DL. It highlighted the fact that barriers to DL intersect in many ways and organisational barriers have the most negative impact compared to the other barriers related to the DL stakeholders. This has highlighted the importance of a strategic approach that targets the organisation as a whole to alleviate or eliminate barriers that affect students and faculty members as a key to implementing quality DL. This echoed the study's main aim of providing a strategic approach for implementing quality DL in Saudi Arabia to provide administrators and policy makers with the wherewithal to overcome the barriers that face DL in the country and alleviate their impact, informed by a variety of theoretical and practical recommendations from the literature and practice.

7.2.4 The fourth study objective: to select a valid methodology to evaluate the quality of the implemented DL in the Saudi context using KAU as a case study.

Aiming at proposing a strategic approach to implement quality DL in Saudi Arabia, the study strived to evaluate the current status of DL in the country. Such an approach entailed the establishment of a credible evaluative framework to be used as a tool for investigating the implemented DL quality in the country. Given the wealth of literature that addresses quality in DL learning, the study was able to deduce its evaluative criteria for quality DL. However, as the study progressed and the collected data started to add to the deductively accumulated knowledge, new themes of data were inductively collated to indicate an approach referred to in the literature as the abductive approach.

The review of the literature indicated the validity of the application of the international criteria in assessing DL quality in different contexts, which manifested itself as an objective view towards the implementation of quality DL. However, the need for a comprehensive view of the current implementation of quality DL in the country required an assessment that took into account the perspective of all DL stakeholders, which entailed a subjective view. In doing so, the literature related to the purpose and the validity of the study's use of techniques to collect data from stakeholders, has guided the study approach.

The transferability of the case study strategy indicated in the literature (see Chapter III; section 3.3.3) presented the choice of the use of a case study that investigated thoroughly the quality of the implemented DL in one Saudi university as a feasible choice. The adoption of a case study strategy that used mixed-methods design was a great advantage to the study as it allowed different techniques to be used in collecting data from the different DL stakeholders and different aspects of triangulation to be applied. Finally, the study's critical realism position is manifested in the study's development of its strategic approach which is deemed by the literature to offer leeway for the researcher to understand and develop a knowledge that encompasses all the aforementioned presented choices and approaches.

7.2.5 The study's fifth objective: to evaluate the quality of the DL programmes in Saudi Arabia, using KAU as a case study, guided by criteria (defined in the second objective) and identify barriers to the implementation of quality DL.

The discussion of this objective is divided into two sections:

I. The evaluation of the quality of the DL programmes in Saudi Arabia, using KAU as a case study.

II. The identification of barriers to the implementation of quality DL in Saudi Arabia, using KAU as a case study.

I. The evaluation of the quality of the DL programmes in Saudi Arabia, using KAU as a case study

The evaluation of the implementation of the criteria of quality DL has utilised five data sources (documents, administrators' views, faculty members' views, student survey and observations) and four data collection techniques (documentation, semi-structured interviews, a survey and observations). A detailed account of levels of agreement between the evidence collected by the different data collection techniques used in the study is demonstrated in Appendix 4. In this section, findings from the four data collections are triangulated to produce a comprehensive and collective assessment of the quality of the DL programme at the case studied university. Findings are presented in the light of the implementation of the criteria of quality DL proposed in the study evaluative framework, which is accompanied by findings from local studies that are pertinent to the study findings. Below, the triangulated main findings are addressed with regard to the six dimensions.

a- Institutional mission:

- **Assessment of the implementation of the criteria of sufficient authority:** the study collected evidence which indicated that the university was not able to implement sufficient authority. Such a conclusion was based on collective agreement between the assessments of faculty members, administrators and students backed by observations to indicate the inconsistency of the DL regulations. Similarly, the lack of cooperation between the DL concerned department, colleges and DDL was revealed by the faculty members, administrators and students to influence negatively the implementation of sufficient authority. It was suggested in the administrators' interviews, the reviewed documents and the students' survey that the ambiguity of DL regulations introduced by the MOHE has a negative influence on implementing sufficient authority. Moreover, the vagueness of the DDL role was indicated by faculty members, administrators and students as a reason behind DDL's inability to exercise sufficient control over DL departments and colleges. These findings coincided with Al-Draiby et al.'s (2010) findings that indicated that the current DL policies and rules in the country pose a major challenge to the process of developing quality DL due to their complexity in the upper levels of administration represented by the MOHE.
- **Assessment of the implementation of criteria of adequate DL courses' scheduling and provision of the needed DL programmes/degrees:** the institution's inability to offer a variety of DL programmes was reflected in the administrators' and faculty member interviewees' responses and confirmed by findings from the students' survey and observations. It has been revealed by faculty members, students and it was supported by observations that, not only was the DL institution not able to found new DL degrees to meet the community's needs, it was also struggling to schedule the courses for the currently enrolled students. Such underachievement was reported by administrators and confirmed by the documented evidence to be due to the shortage of registered students and faculty members and the difficulties in acquiring the needed funds for DL services. The students' survey and interviews with female faculty members revealed that female colleges were the most negatively affected by the inadequate DL course scheduling plans due to the lack of accessibility for females to centres of decision-making in this regard (DDL, which is located in a male only location). The higher impact of the low quality DL on female recipients was also reported by AlMegren and Yassin (2013) and Mirza (2006) who concluded that lower quality DL is provided for DL female students in Saudi Arabia compared to their counterpart male students, which was ascribed to the cultural norms of restricted access to male dominated authorities and the considered low importance of female education.

- **Assessment of the implementation of the criteria of an adequate marketing plan for DL**: the evidence collected from all the employed data collection revealed the inefficiency of the implemented DDL marketing scheme. Faculty members' and administrators' interviews, students' survey, observations and documents indicated that the current marketing scheme has failed to address adequately DL students' requirements and expectations and promote the importance of DL. The unavailability of a national marketing scheme was described by the administrators and faculty members and cited in the documents to hinder the university's plans to implement an adequate marketing plan that takes into account DL students' requirements and expectations and promotes the importance of DL. The university's failure to promote the importance of DL in the job market was the predominant reason from the students' perspective. Such findings echoed Mirza and Al-Abdulkareem's (2011) study that proposed the promotion of DL public awareness and importance in the Saudi universities' marketing plan as one of the core solutions to the implementation of an adequate marketing plan for DL.
- **Assessment of the implementation of criteria of DL equivalency to TL**: although there was agreement between all the evidence (from all the used data collection techniques) which suggested that the university applied the same programmatic courses (modules) in face-to-face learning, the same evidence indicated that the university has failed to give equivalent value in recognition and accreditation to DL compared to TL. This was ascribed by administrators to the lack of communication and coordination between the Ministry of Civil Services and the MOHE regulations which were highlighted in the students' comments on the survey. Touching on this, Al-Shehri (2010) has pinpointed the link between the existing MOHE policies and the lack of DL universities' coordination and cooperation on many levels to highlight its negative influence on the recognition of the value of DL compared to TL.

b- Technology:

- **Assessment of the implementation of criteria of accessibility to DL delivery requirements:** triangulation of the findings confirmed that the university was not able to fulfil the requirement of accessibility to DL delivery requirements**.** Evidence collected from administrators, faculty members, students and observations indicated the absence of the integration between DL applications. Although interviews with the administrators reported accessibility to DL requirements, evidence gathered from

other sources (observations, faculty members' interviews and students' survey) established the university's inability to provide the required level of accessibility to DL requirements. This, according to the aforementioned sources, was because of the university's failure in providing: DL applications that interface smoothly across DL services, the required levels of synchronous communication and accessibility to a variety of electronic reserves. Administrators' interviews revealed that the vagueness of the DDL role and the lack of cooperation between the DL concerned department, colleges and DDL – which was also documented - have a negative impact on the university's ability to provide integrated access to DL delivery requirements. Moreover, the unavailability of regulations that encourage regional college relationships was described by administrators as a contributor to the lack of access to a variety of electronic reserves. These findings confirmed Al-Asmari and Rabb's (2014) findings that suggested that to provide adequate accessibility to DL delivery requirements in the country, more investment should be directed to the provision of support for operating, organising and designing the available technology.

- **Assessment of the implementation of the criteria of sufficient technological infrastructure:** evidence showed that the university was not able implement criteria of sufficient technological infrastructure. Although, it was established through all the evidence collected in the study (aside from the students' survey that addressed issues related to DL applications and connection: see Chapter VI, Technology dimension) that adequate technology (network infrastructure) is provided to deliver DL classes efficiently, the same evidence suggested that the available technology was not exploited sufficiently to develop or archive DL courses or deliver DL classes efficiently. Interviews, observations and documented evidence showed the inefficiency of the university's plans to fund and organise the courses' development and restoration process. The high dependability on outsourced companies, on the other hand, was revealed by the administrators and documents to hinder the technological infrastructure efficiency. These findings supported Al-Asmari, and Rabb's (2014) study which revealed that the quality of the provided technology in DL in Saudi Arabia is negatively influenced by the inefficient utilisation of the available technology and funds.
- **Assessment of the implementation of the criteria of efficient technical support:** concurrence in the evidence gathered from all the different resources confirmed the lack of efficient technical support to DL.

The lack of trained staff in the general technical support centre and the inadequate technical support times and communication options for DL recipients, particularly in the female colleges (as reported by the female faculty and students) was established by findings from all the employed data collection techniques in this study. Failure to provide adequate technical support to female recipients, in particular in Saudi Arabia, was identified by Bates (2009) and AlMegren and Yassin (2013). In conjunction with this, administrators, faculty members, students and the reviewed documents indicated a strong demand for a designated technical support centre to serve adequately DL recipients. The administrators' assessment, supported by the documented evidence, showed the university's failure to include a DL budget in the university budget cycle which was ascribed by the administrators to the unavailability of a MOHE regulation that addresses the DL budget. The lack of accessibility to the required funds and the lack of MOHE policies that regulate DL in the country were highlighted by Sahab (2005) and Al-Draiby et al. (2010) to have a negative influence on the provision of efficient technical support for DL recipients.

c- Instructional support:

- **Assessment of the implementation of criteria of efficient development process for DL courses:** although disparate findings arose from the different data collection techniques employed, triangulation of the findings established the inefficiency of the development process for DL courses. Despite the administrators' views, that claimed the use of technology meets the courses' needs, the faculty members' interviews and the students' survey suggested quite the opposite. In fact, faculty members' and students' assessment of the university's inability to use the technology that meets the courses' needs was corroborated by the interviewed administrators when they revealed that technological aids are predetermined by the DDL developers and faculty members' involvement in the DL course development processes are absent.

  Here, reviewed documents showed contradictions between the DDL mechanisms for developing DL courses, that require faculty members' involvement and findings from the administrators' and faculty members' interviews that revealed the absence of involvement in course development. This shows that the DDL do not have stringent policies and some of them can be overlooked with the knowledge of the existing DDL authority/administration.

This leads back to the unavailability of policies and regulations that were specially introduced by MOHE to organise DL in the country, which was seen repeatedly by administrators as a threat to the DL sustainability in the country. It is worth mentioning that the availability of MOHE regulations played a key role in the university's successful achievement of criteria related to the application of the same TL programmatic requirements. Touching on the lack of MOHE policies that organise DL, Al-Draiby et al. (2010) has pinpointed the negative influence of the vagueness of the MOHE regulations concerning DL on the quality of the provided DL in all its aspects and ascribed it to the complexity of the rules in the upper levels of administration.

The disparity between evidence continues to include the application of institutional standards in the development of DL courses. Aside from the administrators' views that indicated the application of institutional standards in the development of DL courses, evidence from faculty members' interviews, students' survey and observations confirmed the inconsistency of the institutional standards applied to the development of DL learning courses. Furthermore, agreement between evidence from the administrators' and faculty members' interviews confirmed the unavailability of training, assistance and time provided to faculty members to develop DL courses to coincide with their teaching styles. The latter findings agreed with the findings of Al-Asmari (2005) and Albalawi and Badawi (2008) who reported that there is a lack of training for DL faculty members in Saudi Arabia to engage actively in the development process of DL courses.

- **Assessment of the implementation of criteria of sufficient provision of instructional delivery requirements:** triangulation of the study findings indicated the insufficient provision of instructional delivery requirements. Collective agreement between the employed data collection techniques revealed the unavailability of scheduled training for DL technological aspects for faculty members and students. In the same vein, the lack of support for faculty members' activities related to DL methods and instructions was confirmed by the assessments of the faculty members, the administrators and the documents.

  This agreed with the study by Al-Jarf (2007) that found that the lack of training and support for DL instructional purposes and its related lack of rewards and motivation play an important role in demoting the perceived quality of the instructional support provided in Saudi Arabia.

In addition, faculty members' responses to student enquiries, assignments and test grades and the applied level of synchronous communication was proved by all the evidence to be inadequate. Barriers to implementing sufficient provision of instructional delivery requirements varied between the barriers indicated in both faculty members' and administrators' interviews and the barriers that are only seen by faculty members or administrators. The ambiguity of MOHE regulations and the vagueness of the DDL role were revealed in both administrators' and faculty members' interviews. The lack of cooperation between the DL concerned department, the colleges and the DDL was seen by administrators to hinder the DDL's efforts. Faculty members' put forward the lack of recognition and limited time available for faculty members to engage in DL activities related to DL instructional methods as a negative factor to implementing criteria of sufficient provision of instructional delivery requirements. The faculty members reported barriers which agreed with the study by Albalawi and Badawi (2008) and indicated that faculty members' low acceptance of DL is correlated with the low perceived quality of training, recognition and reward in Saudi Arabia.

d- Faculty support:

- **Assessment of the implementation of criteria of sufficient arrangements for faculty members' career development**: evidence from the administrators' and faculty members' interviews and the reviewed documents showed the insufficiency of the arrangements for faculty members' career development. They revealed that faculty participation and innovation in the DL field are not rewarded and DL faculty member advancement criteria are not linked to their performance in the DL field. Such findings were indicated by Alnujaidi (2008) who associated issues of lack of motivation and rewards for faculty members in the country to the low perceived quality of faculty members' support in DL. Administrators' views suggested that the unavailability of MOHE regulations that address rewarding faculty members in the DL field and the absence of the DL budget in the university budget cycle have a negative influence on the implementation of sufficient arrangements for faculty members' career development. From the faculty members' point of view, however, the vagueness of the DDL role was seen as a barrier to such implementation.

e- Student support:

- **Assessment of the implementation of criteria of efficient enrolment procedures:** there was agreement about the findings from the students' survey, administrators' and faculty members' interviews and observations which showed that most of the criteria for efficient enrolment procedures are not implemented. They revealed that, in some DL colleges, students cannot register or pay online and inadequate course information was available through the university website (i.e. DL policies, guidelines and requirements). They also indicated that no training is available for new students regarding requirements, policies, and guidelines. Administrators' views, supported by the documented evidence, disclosed that lack of cooperation between the DL related colleges and the departments were found to obstruct the DDL's efforts to implement adequate enrolment procedures. Furthermore, the evidence collected from the interviews and documents confirmed the negative impact of the vagueness of the DDL role on implementing efficient enrolment procedures. Finally, administrators put forward the inconsistency of the DL regulations as an obstacle to the DDL's efforts in this regard. This agreed with Algahtani's (2011) study that reported the inadequacy of the provided student support in the country, which included the provided DL registration services and training and information available to new DL students.
- **Assessment of the implementation of criteria of adequate accessibility to on-ground and online testing services for DL students:** evidence showed that the provision of integrated access to on-ground services for DL students was only partially implemented. Findings from the students' survey, administrators' interviews and observations indicated that DL students have full access to the library. However, career and professional development activities and opportunities for networking for DL students are, in most cases, not available. Moreover, although administrators' responses indicated the adequacy of the provided online testing service, evidence from the students' survey, faculty members' interviews and observations confirmed the inadequacy of the provided testing services. In conjunction with this, administrators' views on the negative influence of the lack of cooperation between service departments, colleges and the DDL on the university's ability to respond adequately to students' needs through the students' service department, were supported by students' views and the documented evidence. Touching on this, AlMegren and Yassin (2013) have ascribed the DL Saudi students' reported feelings of both isolation and the low importance of their studies to the inadequacy of the provided access to services provided to their counterparts, the TL students, which included active networking and student services.

f- Evaluation:

- **Assessment of the implementation of criteria of an efficient evaluation scheme for DL programmes:** the inefficiency of the university evaluation scheme for DL programmes was revealed in many aspects. Although findings from the administrators' interviews and the documents indicated a regular evaluation scheme for DL programmes, they revealed that it is not consistent with the TL scheme. Moreover, despite the administrators' claims of the efficiency of the employed method to seek feedback from DL recipients regarding the quality of DL programmes and policies, all the other data collection techniques in the study showed quite the opposite. Additionally, all the evidence indicated that DL faculty members do not receive objective feedback from their students. In achieving an efficient evaluation scheme, administrators highlighted the financial limitations and the unavailability of MOHE regulations that address evaluation for DL, as barriers to the implementation of an efficient evaluation scheme. Touching on this, Al-shehri (2010) indicated the inadequacy of the implemented evaluation scheme for DL programmes in the country and listed the lack of sufficient experience and the prerequisite skills of the members of the central administrative authorities as a reason behind the insufficient procedures and arrangements to assess the quality of their programmes.
- **Assessment of the implementation of criteria of effective assessment for DL students:** despite some disparity between the findings from the different data sources, the assessment process for DL students was shown to be inadequate. Although findings from the administrators' interviews indicated that a variety of assessment methods are employed to assess DL students' outcomes, faculty members' interviews, the student survey and observation suggested the inadequacy of the provided assessment tools. In accordance with the study findings, Algahtani's (2011) study indicated that, although students have recognised the advantage of receiving education at a distance, their view of the quality of the provided evaluation related to DL was negative.

  Assessment of the implementation of criteria of effective assessment for DL students in the students' survey findings has highlighted gender differences in the DL students' agreement on the limitations of the used assessment tools by showing that female students were more likely to report the limitations due to the lack of adequate communication between male faculty members and female students (see Chapter VI, evaluation dimension).

The study's endeavours to achieve its fifth objective have identified local barriers as factors that are pertinent to the implementation of quality DL in Saudi Arabia (see Chapter V: section 5.3.4). A comparison between the assessments conducted by the five employed data collection techniques are presented in Appendix 4.

II. The identification of barriers to the implementation of quality DL in Saudi Arabia, using KAU as a case study:

In achieving the fifth objective, it was revealed that many barriers hinder the implementation of criteria of quality DL in the case studied university. Therefore, this section is devoted to discussing barriers that were found to influence negatively the implementation of quality DL in Saudi Arabia as represented by one of its leading universities. In doing so, the identified barriers are presented in the light of their related literature. Barriers are grouped into six categories to reflect the six dimensions of criteria of quality DL that were proposed by the study.

a- Institutional mission:

- **Lack of sufficient authority:** the study's assessment of the quality of the DL at the case studied university found that the lack of sufficient authority manifested itself in the inconsistency of the DL regulations and the lack of cooperation between DL concerned departments and colleges which undermined the university's ability to implement quality DL. This, according to seven DL international quality accreditation bodies, indicates low level quality institutional mission (ACTDEC, 2012; BAC, 2011; BILD, 2011; DLAC, 2010; EAC, 2010; ECBE, 2011; QAA, 2012). Such failure has impacted negatively on the provision of: adequate accessibility to DL delivery requirements, sufficient instructional delivery requirements, efficient students' enrolment procedures and adequate accessibility to on-ground services. The inadequate provision of the aforementioned DL requirements was cited by Aismontas (2014), Jun (2005) and Lin, Lin, and Laffy (2008) to create many barriers that lead to negative attitudes and frustration amongst DL recipients.
- **Inadequate DL course scheduling and provision of the needed DL programmes/degrees**: the university's failure to implement an efficient course scheduling plan and providing DL degrees and programmes that meet the community's needs were revealed in the study assessment of DL quality at the university.

This showed the university's inability to fulfil important requirements of quality DL stressed by AHEA (2010), DLAC and LAN (2009). The non-fulfilment of these requirements was indicated by Croft, Dalton, and Grant (2011) and Parsons et al. (2008) to contribute to the DL students' negative attitudes towards DL.

- **Inadequate marketing scheme:** findings from the study assessment of the quality of the DL at the case studied university indicated that the university marketing scheme did not employ sufficient arrangements to promote the importance of DL and emphasise DL students' requirements and expectations. According to BAC (2011), BILD (2011) and ACTDEC (2012), such failure is a threat that undermines the quality of the provided DL. Here, Chyung and Vachon (2005) and Jun (2005) indicated that DL's institutional inability to employ an adequate marketing scheme to emphasise DL students' requirements and expectations has a major influence on students' tendencies to register, drop out or continue.
- **Inadequate equivalency to TL:** the study assessment of the quality of the DL at the case studied university indicated that the lack of recognition and accreditation of DL certificates undermined the required equivalency to TL and posed a great limitation to implementing crucial criteria of quality DL issues by USDLA (2010), DETC (2011) and CHEA (2012). In this regard, many studies indicated that the institution's inability to build equivalence, recognition and value to DL compared to TL deters students and faculty members from involvement in DL (Croft, Dalton, and Grant, 2011; Ocak, 2011; Wang, et al., 2013).

b- Technology:

- **Inadequate accessibility to DL Delivery requirements:** according to the study of the assessment of the quality of the DL at the case studied university, the university DL applications failed to provide: integration between DL services, accessibility to a variety of electronic reserves, adequate accessibility and manageability and adequate synchronous communication. This showed the university's failure to achieve most of the required criteria proposed by seven DL international quality accreditation bodies for quality DL concerning accessibility to DL delivery requirements (ACTDEC, 2012; BAC,2011; BILD,2011; DLAC, 2010; EAC, 2010; ECBE, 2011; QAA, 2012). Touching on this, Lin, Lin, and Laffey (2008) indicated that DL recipients' inability to gain integrated access to DL services and a variety of electronic databases is associated with their lack of self-confidence in the DL environment and increases their feelings of isolation.

- **Insufficient technological infrastructure:** although the study evaluation of the quality of the DL at the case studied university showed that the available technology and network infrastructure were sufficient; the university's inefficient plans to fund and organise the courses' development and restoration process have incapacitated the efficacyof the university technological infrastructure. This has led to inadequate archiving and restoration processes for DL courses and inefficient development procedures that include the absence of faculty members' involvement in developing DL courses and materials. AACSB (2011), AHEA (2010) and LAN (2009) consider the aforementioned factors as damaging to the quality of any DL programme and therefore they are deemed to be unqualified to be quality accredited. In the same vein, Moore and Kearsley, (2012) indicated that the institution's inability to develop, archive and deliver DL courses efficiently plays a key role in the institution's lack of sustainability.
- **Inefficient technical support:** assessment of the quality of the DL at the case studied university indicated that the inadequacy of the provided training for personnel in the support centre, the inadequate provided technical support times and communication options for DL recipients and the failure to include the DL budget in the university budget cycle were major contributors to the inefficiency of the university technical support. According to Bates and Khasawneh (2007) and Oomen-Early and Murphy (2009), the inadequacy of the provided services that are related to the technical aspects of DL, that include technical support and assistance, poses a great threat to DL recipients' willingness to take part in DL activities and programmes. With regards to the university's failure to include a DL budget in the university budget, IAU (2010), ODLQC (2011) and IADL (2012) see the inclusion of a DL budget in the overall institution's budget cycle as vital to the quality of the provided DL.

c- Instructional support

- **Inefficient development process for DL courses:** the study assessment of the quality of the DL at the case studied university showed the inefficiency of the development process for DL courses was reflected in many factors. The technology was inadequately used to meet the courses' needs and the instructors' teaching styles. This was due to the fact that courses were developed by DDL with no involvement of the assigned instructors.

Related to this, faculty members were not receiving training, assistance or allowed time to develop DL courses. Moreover, the institutional standards applied in the development of the DL course proved by the study finding to be inconsistent. This finding reflects quite the opposite of what has been stressed by six DL quality international accreditation bodies regarding the importance of the freedom provided to faculty members to develop DL courses to coincide with their teaching styles, and the required consistency of the institutional standards applied in the development of the DL course (ACTDEC, 2012; BAC, 2011; BILD, 2011; IADL, 2012; IAU, 2010; ODLQC, 2011). Touching on this, Gannon et al. (2009) emphasised the negative influence of neglect to the DL faculty members' role in the development process of DL courses on faculty members' attitudes. Furthermore, Moore and Kearsley, (2012) highlighted the negative influence for the application of inconsistent institutional standards on increasing feelings of low importance perceived by DL students.

- **Inadequate provision of instructional delivery requirements:** the assessment of the quality of the DL at the case studied university indicated that the absence of scheduled training courses for DL technological aspects for faculty members and students, the lack of support for faculty members' activities related to DL methods and instruction, the inadequate faculty members' response to student enquiries, assignments and test grades and the inadequacy of the applied level of synchronous communication which were all impediments to the efficiency of the provided instructional delivery requirements. Findings from the study were backed up by the USDLA (2010), DETC (2011) and CHEA (2012) standards that indicated that the lack of the previous factors disqualifies DL institutions from obtaining their quality accreditation. Related to this, Lin, Lin, and Laffey (2008) and Oomen-Early and Murphy (2009) stressed the need to exploit the available technology to provide a high level of synchronous communication to alleviate feelings of isolation associated with DL. Furthermore, Tabata and Johnsrud (2008) pointed out that the lack of support for DL faculty members' activities related to DL instructions and methods reduce their ability to develop DL-oriented teaching styles and their willingness to participate in DL activities, which, in turn, has a huge impact on the overall DL delivery process and student attitudes towards DL. Additionally, the absence of scheduled training courses for DL technological aspects for DL faculty members and students, indicated by Lin, Lin, and Laffey (2008), play a vital role in reducing their satisfaction level.

d- Faculty support:

- **Insufficient arrangements for faculty members' career development:** the study evaluation of the quality of the DL at the case studied university indicated that faculty members' participation and innovations in the DL field were not rewarded and their advancement criteria were not linked to their performance in the DL field. This has been stressed by 10 DL quality international accreditation bodies to undermine the quality of the provided support for faculty members and disqualify DL institutions from obtaining accreditation to their programmes (CHEA, 2012; DETC, 2011; DLAC, 2010; EAC, 2010; ECBE, 2011; IADL, 2012; IAU, 2010; ODLQC, 2011; QAA, 2012; USDLA, 2010). Failure to promote faculty members' participation and innovations in the DL field and link their advancement criteria to their performance in the DL field were highlighted by many studies to have a negative influence on faculty members' performance and attitudes. For instance, Ocak, (2011) and Wang, et al., (2013) indicated that DL faculty members' negative attitudes were associated with a lack of rewards and incentives. Moreover, Tabata and Johnsrud (2008) emphasised the impact of faculty members' negative attitudes on their performance in DL and its potential impact on the students' success. In addition, Gannon et al. (2009) and Tabata and Johnsrud (2008) indicated that faculty members' willingness to participate in DL is influenced to a high degree by the provided support.

e- Student support:

- **Inefficient student enrolment procedures:** the assessment of the efficiency of the DL students' enrolment procedures indicated that insufficient enrolment procedures for DL students are implemented**.** This was manifested in the university's inability to implement fully online registration and provide training for the new students about DL requirements, policies and guidelines. Linked to these factors, information regarding DL courses (i.e. offered courses; programme requirements; scheduling; policies; FAQ) was not adequately provided on the university website. This shows that the university, according to the criteria issued by the seven quality DL international accreditation bodies, failed to meet the minimum requirements of quality student support (AACSB, 2011; AHEA, 2010; DLAC, 2010; EAC, 2010; ECBE, 2011; LAN, 2009; QAA, 2012). The failure to provide adequate information about DL at the university and to implement fully online registration for DL students was pointed out by Jun, (2005) to deter students from involvement in DL.

In conjunction with this, Chyung and Vachon (2005) stressed the importance of the provision of training to new DL students on DL requirements and guidelines and pointed out its positive effect on DL students' attitudes and satisfaction levels.

- **Inadequate accessibility to on-ground and online testing services for DL students:** the study assessment of the quality of the DL at the case studied university indicated that DL students in the university do not have adequate access to activities related to career, professional development and networking. Combined with the lack of recognition and response to students' needs through the student service department and the inadequacy of the online testing service, the provided accessibility to on-ground and online testing services for DL students proved to be inadequate. Here, IAU (2010), ODLQC (2011) and IADL (2012) consider the aforementioned shortcomings a great threat to the quality of the provided student support. Related to this, Jun (2005) and Lin, Lin, and Laffey (2008) pointed out that the lack of access to on-ground services, that enable DL students to participate in activities related to professional development and networking, raises barriers of the perceived low importance of DL and student lack of confidence.

f- Evaluation:

- **Insufficient evaluation scheme for DL programmes:** according to the study assessment of the quality of the DL at the case studied university, many factors have contributed to the inefficiency of the university evaluation scheme for DL programmes. These factors included: the inconsistency between DL and TL evaluation schemes, the inefficiency of the applied methods to seek feedback from DL recipients and the unavailability of student feedback regarding DL faculty members' performance. The university's failure to implement such factors undermines greatly the quality of the university evaluation scheme according to the criteria issued by six international accreditation bodies (ACTDEC, 2012; BAC, 2011; BILD, 2011; IADL, 2012; IAU, 2010; ODLQC, 2011).

  Touching on this, the institutional failure to apply regular evaluation for DL programmes that is consistent with the scheme used for TL in regularity and procedures was found by Moore and Kearsley, (2012) to influence negatively the institution's sustainability and its ability to respond effectively to DL programme needs. They continued to point out the great negative impact of overlooking feedback from DL students and faculty regarding DL programme quality (policies, services) on the DL programme's future developments and the satisfaction levels of its recipients.

- **Ineffective assessment for DL students:** the study evaluation of the quality of the DL at the case studied university indicated that the assessment methods employed to assess student outcomes were inadequate as only limited assessment methods were applied. According to the USDLA (2010), DETC (2011) and CHEA (2012) criteria of quality, it is essential for DL institutions to implement a variety of assessment methods to assess student outcomes. Touching on this, Lin, Lin, and Laffey (2008) and Moore and Kearsley, (2012) indicated that failure to implement DL assessments that includes projects, group assignments and activities, reduces the students' self-confidence and feelings of engagement and increases feelings of isolation associated with the DL delivery method.

7.2.6 The study sixth objective: to develop a strategic approach for the implementation of quality DL in Saudi Arabia.

The study strived to develop a strategic approach for implementing quality distance learning in Saudi Arabia. The achievement of the previous objectives has enabled the study to firstly, identify the criteria of quality distance learning (see Objective 2) and secondly, to assess the quality of the current DL at the university from different stakeholders' perspectives and highlight negative factors that undermine the implementation of quality DL (see Objective 5). This has led to a comprehensive understanding of the barriers that face the implementation of quality DL at the university (see Objective 5) and helped to form a plausible approach to enhance the quality DL in the country that was further validated by the experts' opinions in ten universities (see Chapter VI, Delphi survey). The study's strategic approach is presented in light of solutions to promote the quality of DL in relation to the study's six dimensions.

I. Institutional mission

The study discovered many factors responsible for inhibiting the implementation of quality institutional mission. These factors were classified under three categories: factors that hinder the implementation of sufficient authority, factors that hinder the implementation of adequate DL courses' scheduling and provision of the needed DL programmes/degrees and factors that hinder the implementation of an adequate marketing plan and equivalency to DL. With regard to the first category, it was revealed that the ambiguity of the MOHE regulations and the vagueness of the DDL pose a serious threat to the implementation of sufficient authority (see Objective 5).

This, according to the administrators and cited in the reviewed documents, has incapacitated the university's ability to implement consistency in DL regulations and enforce cooperation between DL departments and colleges. The introduction of regulations by the MOHE that define the DDL role in Saudi universities was highlighted by administrators as a requirement to solidify the DDL role as the legitimate centre for DL. This will help promote the consistency of DL regulation at the university and enforce cooperation between DL colleges and departments.

On the other hand, the study found that factors that hinder the implementation of adequate DL course scheduling and provision of the needed DL programmes/degrees and factors that hinder the implementation of an adequate marketing plan and equivalency to DL are in most respects related. Chyung and Vachon (2005) and Ocak, (2011) suggested that DL institutions' failure to implement an effective marketing plan for DL and promote DL equivalency deters students and faculty members from becoming involved in the DL system. The shortage of registered students and faculty members were amongst the main reasons, which were reported by the administrators and also documented, behind the university's failure to implement adequate DL course scheduling and provision of the needed DL programmes/degrees. Accordingly, a link can be fairly proposed between the inadequacy of the university marketing plan and its inability to promote DL equivalency to TL and the inadequacy of the university DL course scheduling and provision of the needed DL programmes/degrees. The study's findings indicated that the unavailability of the MOHE regulations that introduce a national marketing scheme, construct a barrier to the implementation of an adequate marketing plan at the university (see Objective 5). The introduction of MOHE regulations that regulate a national marketing plan and communicate the importance and validity of DL certificates in the job market was highlighted by administrators, faculty members and documented as an important incentive to attract more DL students and faculty members.

This will enable the university to found more degrees as administrators suggest. Linked to this, the unavailability of MOHE regulations that address the DL budget was also found to contribute to the university's failure to provide adequate DL courses, scheduling and provision of the needed DL programmes/degrees (see Objective 5). Accordingly, the introduction of MOHE regulations that address the DL budget was suggested by administrators to help the DDL at Saudi universities to receive a designated financial budget to improve the current implementation of adequate DL courses' scheduling and provision of the needed DL programmes/degrees.

Therefore, it can be concluded, that barriers to the implementation of quality of the institutional missions in the country can be eliminated by the introduction of clear MOHE regulations that: promote the DDL role as the centre of DL regulation in Saudi universities, regulate a national marketing plan, communicate the importance and validity of DL certificates in the job market and address the DL budget as part of the university budget cycle.

II. Technology

The study's findings revealed many factors that hinder the implementation of quality DL in the technology dimension could be divided into three categories: factors related to the provision of adequate accessibility to DL delivery requirements, factors related to the provision of sufficient technological infrastructure and factors related to the provision of efficient technical support.

Concerning the first category, these factors appeared to be highly influenced by problems within the institutional mission dimension, particularly those related to the lack of sufficient authority. According to the administrators, the lack of cooperation between departments and colleges resulted from the vagueness of the DDL role and the ambiguity of MOHE regulations (represented in the unavailability of regulations that encourage regional college relationships). These have led to the university's failure to provide adequate accessibility to DL delivery requirements. This failure included the lack of integration between DL applications, the inaccessibility to a variety of electronic reserves and the inadequate provision of synchronous communication that resulted from the applications inadequate accessibility and the manageability of the DL application (see Objective 5). To help overcome the problems associated with the inadequacy of the provided accessibility to DL delivery requirements, administrators suggested that sufficient authority should be devolved to the DDL to have control over departments and colleges in order to enforce and organise collaborative efforts between all the departments and colleges involved.

This is expected to lead to the development of an application that is integrated across all DL departments and offers more accessibility and manageability given the centralised control and the authorised communication channel created to organise the DL services' and colleges' collaborative efforts. Moreover, the need for the introduction of MOHE regulations that encourage regional college relationships was pointed out by the administrators to enable universities in the country to provide more accessibility to a variety of electronic reserves across all Saudi universities.

In relation to factors that inhibit the provision of sufficient technological infrastructure, it was discovered that the inefficiency of the DDL's plans to fund and organise the courses' development and restoration process has led to these processes becoming inefficient (see Objective 5). Administrators and documented evidence indicated that the high dependability on outsourcing companies was behind the university's failure to implement efficiently the DDL plans to fund and organise the courses' development and restoration process. This extends to affect negatively the implementation of the provided instructional delivery requirements (see the next dimension). The establishment of a designated course development department and the employment of the so called Saudization plan presented cost-effective solutions that were highly recommended by senior administrators (see Chapter V: administrators' interviews). Such establishment will help organise the courses' development and restoration process at the university by restricting the development process to one internal department (as opposed to many contracted companies) with its own designated financial resources (as opposed to the many contracts with outsourced companies) and stable workforce/human resources (as opposed to contracted companies' employees).

Finally, in this dimension, factors that hinder the provision of efficient technical support were partially influenced by factors in the institutional mission dimension (the ambiguity of MOHE regulations) ascribed by administrators to the unavailability of MOHE regulations that address the DL budget. Accordingly, the university was not able to have a designated technical support centre. This has resulted in the reported unskilled personnel in the general support centre and the inadequacy of the provided technical support times and communication options for DL recipients (see Objective 5). The introduction of MOHE regulation that addresses the DL budget is seen by administrators as a necessity to help DL universities in the country to allocate their budget meaningfully and to take into account the essential needs for DL technical support, such as the establishment of a designated DL technical support centre.

In light of the aforementioned factors, the quality of the technological aspects of DL could be promoted by devolving more authority to the DDL at Saudi universities and establishing a designated course development department in the Saudization plan. Moreover, the introduction of MOHE regulations that address the DL budget and encourage regional college relationships will help overcome many problems linked with the inefficiency of the provided technical support for DL and the lack of accessibility to a variety of electronic reserves across all Saudi universities.

III. Instructional support

In terms of the instructional support provided by the university, it was found that many factors have contributed to the inefficacy of the development process for DL courses and the insufficiency of the provided instructional delivery requirements. A major obstacle to the efficiency of the development process for DL courses was the DDL disregard for the vital role of faculty members in the development process of DL courses. This is seen by six international accreditation bodies as detrimental to the development process for DL courses (ACTDEC, 2012; BAC, 2011; BILD, 2011; IADL, 2012; IAU, 2010; ODLQC, 2011). Such an obstacle has resulted from the inefficiency of the DDL's plans to fund and organise the courses' development and restoration process (see the previous section). This caused four important shortcomings indicated by the study which included: the lack of freedom provided to faculty members to develop DL courses to coincide with their teaching styles, the unavailability of training, assistance and time provided to faculty members to develop DL courses, the inability to use the technology that meets the courses' needs and finally, the inconsistency of the institutional standards applied in the development of the DL course (see Objective 5). Faculty members suggested that such failure could be avoided by engaging faculty members in the development process for DL courses which entails the provision of training, assistance and time for them to design and use the technology that meets the courses' needs (see Chapter V; faculty members' interviews). This, accompanied by the administrators' suggestion of a designated course development department and the employment of the Saudization plan, would sustain the consistency of the institutional standards applied in the development of the DL course that many disorganised contracted companies' efforts failed to do.

Concerning factors that hinder the sufficiency of the provided instructional delivery requirements, the findings of the study indicated that elements of insufficient authority in the institutional mission play a vital role in inhibiting the implementation of criteria of sufficient instructional delivery requirements. According to faculty members, the weak authority devolved to the DDL, accompanied by the ambiguity of the MOHE regulation that recognises DL faculty members' activities, have constructed many barriers. These included the limited time available for faculty members to engage in DL activities related to DL and the inadequacy of faculty members' responses to student enquiries, assignment and test grading (see Chapter V; faculty members' interviews). Faculty and administrators advocated the need for the introduction of MOHE regulations that communicate recognition for faculty members' activities in DL and the provision of time for faculty members to engage in DL activities related to DL instructional methods.

This is expected to contribute to encouraging faculty members to respond quickly to DL students and engage in DL related activities as the studies suggested (Alnujaidi, 2008; Wang, et al., 2013). Additionally, the vagueness of the DDL role and the lack of cooperation between DL departments and colleges and the DDL was described by administrators to have led to the university's failure to provide scheduled training courses for DL technological aspects for faculty members and students. According to the administrators, DL colleges do not communicate DL students' and faculty members' training needs to the DDL due to its insufficient authority. The unavailability of scheduled training courses was seen by faculty members as a reason behind the inadequacy of the applied level of synchronous communication. By defining the DDL role as the centre for all DL regulation, the DDL would have the authority and full responsibility of initiating training schedules for DL, which was recommended in both the faculty members' and the administrators' interviews. McFarlane (2011) indicated that the availability of scheduled training for DL students and faculty members helps to promote DL activities related to the use of DL applications, which include the application of a higher level of the applied synchronous communication.

Therefore, in order to promote the quality of the instructional support, the study suggests the engagement of faculty members in the development process of DL courses with a provision for training, assistance and time. This must be accompanied by a designated course development department and the employment of the Saudization plan. Moreover, the introduction of MOHE regulations that communicate recognition and provision of time for faculty members' engagement in DL activities related to DL instructional methods, is important to promote the quality of the instructional support provided. Finally in this regard, the recognition of the DDL authority and full responsibility of the provision of scheduled training for DL recipients plays a key role in promoting DL activities related to instructional delivery requirements.

IV. Faculty support

The quality of faculty support is undermined by factors related to the lack of sufficient authority. These factors are: the vagueness of the DDL role and the ambiguity of the DL regulations. According to administrators, the unavailability of MOHE regulations that address the DL budget and the DL faculty members' rewards makes regulations imposed by the DDL to bring about recognition and reward for faculty members' participation, innovation and performance in the DL field hard to obtain enforce given the DDL's current weak authority and limited financial resources.

The vagueness of the DDL role was also said by faculty members to undermine the DDL's ability to reward them and they suggested more authority should be devolved to the DDL. Administrators suggested that the promotion of the DDL role and the introduction of MOHE regulations that address the DL budget and the DL faculty members' rewards would provide the DDL with the wherewithal to regulate adequate DL faculty members' rewards. Otherwise, given the current situation of DL in the country, DL colleges (influenced by their TL authorities) will continue their disregard for DL faculty members' support.

V. Student support

The study has discovered that factors that hinder the implementation of quality student support fall into two categories: the efficiency of DL students' enrolment procedures and accessibility to on-ground and online services for DL students. The findings suggested that all the aforementioned were a result of factors in the institutional mission dimension concerning the lack of sufficient authority (the vagueness of the DDL role, the lack of cooperation between service departments, colleges and the DDL and the inconsistency of DL regulations at the university) (see Objective5). These included: the inadequacy of the online registration procedures, the inadequacy of the provided accessibility to career and professional development, the lack of recognition and response to students' needs through the student service department and the inadequacy of the provided online testing services.

With this in mind, providing a solution to overcome barriers associated with a lack of sufficient authority ought to promote the quality of the provided student support. According to administrators and faculty members, the promotion of the DDL role to the centre of all DL operations will help to enforce cooperation between DL departments and colleges which entails more consistency in the DL regulations. This suggestion by administrators is expected to help DDL to unify the registration process for DL students, oblige DL colleges to communicate any activities related to career and professional development to the DDL which, as the centre, will be able to disseminate such activities to DL students in the concerned colleges. Moreover, by applying the aforementioned solution, the recognition and response to student needs through the student service department will be endorsed, as the DDL would have a centralised control that links all DL service departments and colleges. Finally, online testing services, as part of the DDL, ought to benefit from enforcing cooperation between DL departments, colleges and the DDL by opening a controlled channel that allows online products (such as online testing) to be enhanced based on the collaborative efforts between the DL technological department, DL colleges and the service departments.

VI. Evaluation

The evaluation quality at the university was assessed based on the efficiency of its evaluation scheme for its DL programmes and the effectiveness of its assessment for DL students' outcomes. It appears that the negative influence of the factors of the lack of sufficient authority still persists in hindering the university's efforts towards implementing an efficient evaluation scheme for DL programmes. The ambiguity of the MOHE regulation which manifests itself in the unavailability of the MOHE regulations that address evaluation for DL and the DL budget, have contributed to the university's inability to implement an evaluation scheme that is consistent with TL in regularity and procedures (see Objective 5). The introduction of clear regulations by the MOHE that address the DL evaluation scheme and the budget is seen by administrators as crucial to provide them with the wherewithal to ensure an evaluation scheme that is parallel to the TL scheme in consistency, regularity and procedures. This will help to tackle issues related to the insufficiency and inconsistency of the used methods to seek feedback from DL recipients compared to TL, which were advocated by faculty members (see Chapter V: faculty members' interviews).

On the other hand, the ineffectiveness of the implemented assessment for DL students' outcomes has stemmed from the inadequacy of the employed methods to assess the students during the semester. Here, faculty members' ability to use a variety of methods to assess DL students' outcomes is undermined by the inadequacy of the assessment tools offered by the used DL applications and the predetermined assessment methods imposed by the DDL experts (see Chapter V: faculty members' interviews).

Faculty members pointed out that such a shortcoming can be avoided by offering freedom to faculty members to determine the suitable assessment methods for their classes. This, when complemented by solutions proposed in the instructional support dimensions for promoting the efficiency of the development process for DL courses, contributes to the construction of effective assessment tools for DL students' outcomes.

In the light of this, the quality of the evaluation can be promoted by the introduction of clear regulations by the MOHE that address the DL evaluation scheme and budget, and offer freedom to faculty members to engage actively in the process of designing the assessment methods and courses for their DL classes.

In summary, the study was able to devise a strategic approach to implement quality DL in Saudi Arabia that promotes the quality in six dimensions. By doing so, the study presents solutions that are expected to tackle obstacles associated with each dimension.

This has resulted in four main categories and eleven approaches. Table 7.1 demonstrates the study's proposed approaches and solutions, associated with each dimension.

Table 7.1 The study proposed approach and solutions associated with each dimension

No	Category	Solutions	Targeted dimension
1	Ministry Of Higher Education regulations	The introduction of regulations by the Ministry Of Higher Education that define the Deanship of Distance Learning role in Saudi universities	• Institutional mission
		The introduction of regulations by the Ministry Of Higher Education that regulate a national marketing plan	• Institutional mission
		The introduction of regulations by the Ministry Of Higher Education that communicate the importance and validity of distance learning certificates in the job market	• Institutional mission
		The introduction of regulations by the Ministry Of Higher Education that address the distance learning budget	• Institutional mission • Technology • Faculty support • Evaluation
		The introduction of regulations by the Ministry Of Higher Education that encourage regional college relationships	• Technology
		The introduction of regulations by the Ministry Of Higher Education that communicate recognition and provision of time for faculty members	• Instructional support
		The introduction of clear regulations by the Ministry Of Higher Education that address distance learning faculty members' rewards	• Faculty support
		The introduction of clear regulations by the Ministry Of Higher Education that address a distance learning evaluation scheme.	• Evaluation
2	The Deanship of Distance Learning's role	The promotion of the Deanship of Distance Learning role so that it becomes the central authority for all distance learning regulations at the university.	• Institutional mission -Technology -Instructional support -Faculty support -Student support
3	The establishment of a designated course development department and the employment of the "Saudization" plan		-Technology -Instructional support
4	Faculty members' role	The active engagement of faculty members in the development process for distance learning courses which entails the provision of training, assistance and time	-Instructional support
		The active engagement of faculty members in the development process of designing the assessment methods for their DL classes.	-Evaluation

7.3 THE STUDY'S MAIN FINDINGS

The study's endeavours to develop a strategic approach to the implementation of quality DL in Saudi Arabia have yielded the main findings listed below:

- Distance learning is a comprehensive term that is not restricted to online or e-learning activities but is a broader term that includes all approaches for delivering education to students at a distance.
- Although four phases of technological development have influenced DL practices, the concept of learning at a distance remains the same in all the DL development phases.
- The distance learning system comprises of six core elements: institutional mission, technology, instructional support, faculty support, student support and evaluation.
- Distance learning quality criteria issued by international accreditation bodies do not vary significantly and in most respects cover six dimensions and fourteen aspects and of quality DL.
- A shared characteristic of the leading international DL universities is the application of the internationally issued DL quality standards and their strategies in applying DL quality standards. This highlights solutions that can be adopted to implement quality DL learning.
- The evaluation of the quality of DL from the perspective of a DL stakeholder provides a comprehensive view of the current DL status and helps to identify barriers to the implementation of quality DL in the Saudi context.
- Evaluating the current status of DL in one of the leading DL Saudi universities presents a valid status of the implemented quality DL in the country given the symmetry of the their characteristics and governance.
- The ambiguity of the Ministry of Higher Education regulations that organise DL and the vagueness of the DDL in Saudi universities have negatively influenced the quality of DL in Saudi Arabia on many levels.
- Solutions to improve the quality of the implemented DL in Saudi Arabia must begin with the introduction of policies and regulations that organise DL in the country.

7.4 CONCLUSION

This research has successfully achieved its aim of developing a strategic approach for the implementation of quality DL. The identification of criteria of quality distance learning has enabled the study to build a framework by which the quality of the current DL can be assessed in light of the DL stakeholders' (administrators, faculty members and students) perspectives. Assessment of the current quality of DL has revealed that the quality of DL in the country faces many barriers at six levels/dimensions. These barriers, in most respects, ensued from the ambiguity of the Ministry of Higher Education regulations that organise DL in the country, which has incapacitated the Deanship of Distance Learning role as the centre of DL operations at Saudi universities that offer DL at many levels. Although the study strategic approach has addressed many factors that influence negatively the implementation of quality DL, it puts more focus on eliminating these aforementioned two factors from many angles (the study's proposed dimensions).

It is therefore concluded that contributors to the implementation of quality DL in the country have mainly evolved around two factors. Firstly, the introduction of MOHE regulations that address organising DL from many aspects which included: the national marketing plan, DL budget and evaluation scheme, validity of DL certificates in the job market, recognition for faculty members' engagement in DL activities related to DL and the establishment of regional college relationships. Secondly, the promotion of the DDL role to have sufficient authority to work as the centre of DL regulations and operations inside DL Saudi universities.

7.5 THE STUDY LIMITATIONS

Although the study was able to achieve its objectives and, eventually, its aim, the research potential and limitations must be addressed in order to present an accurate picture of the conducted work.

Given that this research was conducted by one person with insufficient financial aid to recruit any assistants and in a limited time, this study has taken place in one leading Saudi university as an embedded case study aiming to develop a strategic framework for quality implementation of DL in Saudi Arabia after several points have been taken into consideration, as follows:

Firstly, the case studied university (King Abdul-aziz University) is the first university in Saudi Arabia to use DL to deliver many of its courses; its DL centre contains the headquarters of the Saudi Society for Distance Learning. Its DL Society has an overall insight into Saudi DL society, and administrators in the university are deemed to be aware of any changes of policies or conferences related to DL in Saudi Arabia (KAU, 2013).

Secondly, the study's sample consisted of students, faculty members and administrators from the university which has more than five branches around the country and, due to the nature of DL, participants are expected to be from around the country. The study approach can be justified based on Hammersley and Foster's (2000) theory of transferability. They assumed a link can be obtained between a case at the micro level and cases at the macro level. In this study, linkage can be claimed between the micro level case (KAU) and the macro level cases (all DL universities in the country), in that all universities in Saudi Arabia are working under the umbrella of the MOHE and are governed by the same policies and rules.

Other limitations to the study were concerning having adequate access to female facilities and participants which might have its influence on the study findings. Given the gender of the researcher, no face to face communication was available and interviews with female faculty members or administrators had to be through phone calls. In conjunction with this, female sections' facilities were inaccessible to the researcher and the researcher had to rely on the same accessible facilities observable in the male sections and use the other data collection techniques (in triangulation) to have a clear picture of facilities parallel to the observable male sections.

7.6 CONTRIBUTION TO KNOWLEDGE

The study's contribution to the knowledge is presented in light of its beneficiaries and the advantages that the study provides to them:

I. Researchers:

- Given that the study has identified six key dimensions for assessing the quality of DL, it helps researchers in the DL field to consider these six dimensions in building approaches related to DL quality assurance.
- Elements of the study framework could provide researchers in the field with valid themes which they can build on in their investigative approaches.
- The study framework could provide researchers in the field with the base for designing comprehensive instruments for evaluating the quality of DL programmes.
- The study approach in assessing DL quality has highlighted the importance of involving students, faculty members and administrators in the process of assessing the quality of the provided DL. This helps to direct researchers when selecting the targeted participants for investigating issues concerning DL quality.

- The study approach used mixed method design that comprises four data collection techniques which could help researchers in making decisions regarding the approach they use to collect data concerning DL.
- Given that the findings of the study provide a comprehensive image of the current quality of DL in Saudi Arabia; it helps build the first step for researchers in the field to investigate more comprehensively barriers that face DL in the country.
- The study's strategic approach provides a threshold for researchers in the country to examine the implications of the approach in rectifying the quality of the DL in the country.

II. Practitioners

- The study framework provides Saudi university authorities with a comprehensive instrument for evaluating the quality of their DL programmes.
- The findings of the study provide policy makers with a clear example of the current quality of the implemented DL in Saudi Arabia.
- The study findings offer educators, universities authorities and policy makers a clear view on the perceived DL quality from the perspective of DL recipients and their satisfaction levels.
- By identifying barriers to the implementation of quality DL, the study provides policy makers and authorities at Saudi universities that offer DL with negative factors that must be avoided in future applications.
- The study strategic approach provides policy makers and university authorities in Saudi Arabia with the wherewithal to implement quality DL in the country and avoid the shortcomings of the perceived poor quality DL.

7.7 RECOMMENDATIONS

The study recommendations are classified into two categories, the first of which addresses recommendations that are pertinent to the researchers in the field and the second of which are directed to practice.

I. Recommendations for research

- Given the rapid advancement in DL, the provided six dimensions of quality DL could be improved to encompass the emergence of future changes in the DL system which may lead to the creation of more dimensions.

- Researchers in the field could examine the influence of the MOOCs (Massive Open Online Courses) DL on the validity and implementation of the study proposed quality criteria.
- Given the study has found differences in the perceived quality between genders in both faculty members and students, research in this area could be beneficial to the body of research, particularly in Saudi Arabia where separation between genders is indispensable due to religious and cultural values.
- Researchers could benefit from investigating in depth the students' satisfaction and needs concerning the quality criteria proposed by the study.
- Broader researches that compare the implementation of quality DL in more than one university in Saudi Arabia could produce more general results.
- Researches that address DL female perceptions of the DL quality in Saudi Arabia could add more value to the study findings if it was conducted by female researchers as they have more access to female participants and facilities given the obstacles that face male researchers in relation to collecting data from female participants.

II. Recommendation to practice

- Policy makers in the country should consider reforming DL policies to eliminate barriers to the implementation of quality DL in the country.
- The evaluation tool provided by the study framework could be used by university authorities and DDLs in Saudi universities to guide future developments in DL programmes.
- The study approach in assessing the quality of DL proved the importance of involving DL recipients in assessing the quality of the provided DL which should be taken into account by the university authorities in planning for future development.
- Given the study found that DL female students are more likely to experience the inadequacy of the outcomes of assessment, technical support and course scheduling plans, more efforts should be invested in tackling problems associated with gender separation in DL.

REFERENCES

Abdulaziz, H. (2008). *E-learning Philosophical: Concepts, Tools and Applications*, Jordan: Dar Alfeker Publisher.

Accreditation Council for TESOL Distance Education Courses, (2012). *Performance Indicators for ACTDEC Accreditation.* [online] Available at: < http://actdec.org.uk/ performance-indicators-for-actdec-accreditation/> [Accessed 2 May 2012].

Ackroyd, S. and Hughes, J. (1992) *Data Collection in Context* (2nd ed). London: Longman.

Adult Higher Education Alliance, (2010). *Principles of Good Practice.* [online] Available at: < http://ahea.org/resources/shared/> [Accessed 1 Mar 2012].

Aismontas, B. B. (2014). Comparative analysis of personality characteristics of full-time and distance learning students (on the example of psychology students). *Psychological Science and Education psyedu. ru*, *2013*(4), 41-49.

Al-Alwani, A. E. (2005). *Barriers to Integrating Information Technology in Saudi Arabia Science Education*, Unpublished doctoral dissertation, University of Kansas, U.S.A.

Al-Asmari A. M. (2005). *The use of the internet among EFL teachers at the colleges of technology in Saudi Arabi*a, Unpublished Ph.D. thesis, Ohio State University.

Al-Asmari, A. M., & Rabb Khan, M. S. (2014). E-learning in Saudi Arabia: Past, present and future. *Near and Middle Eastern Journal of Research in Education*, 2, 112-129.

Alaugab, A.,(2007). *Benefits, Barriers, and Attitudes of Saudi Arabia Female Faculty and Students toward Online Learning in Higher Education ,* PhD Thesis, U.S.A: University of Kansas.

Albalawi, A., & Badawi, M. (2008). Teachers' perception of e-learning at the University of Tabuk. In C. Bonk et al. (Eds.), *Proceedings of World Conference on E Learning in Corporate, Government, Healthcare, and Higher Education, 2008.* 2434-2448.

Al-Balawi, M. S. (2007). *Critical Factors Related to the Implementation of Web-Based Instruction by Higher Education Faculty at Three Universities in the Kingdom of Saudi Arabia.* Unpublished doctoral dissertation, University of West Florida.

Al-Busaidi, K. A., & Al-Shihi, H. (2010). Instructors' Acceptance of Learning Management Systems: A Theoretical Framework. *Communications of the IBIMA*, 1-10.

Al-Draiby, O., et al. (2010). E-Learning and its effectiveness in Saudi Arabia. Course project from the Faculty of Communication and Information Technology. 13 January 2010.

Al-Fadhli, S. (2009). Factors influencing the acceptance of distance learning: A case study of Arab Open University in Kuwait. *Online journal of distance learning administration*, *12*(3).

Algahtani, A. (2011). *Evaluating the Effectiveness of the E-learning Experience in Some Universities in Saudi Arabia from Male Students' Perceptions*, Durham theses, Durham University.

Alhazzani, N. (2014). Students Interaction with E-Learning Environment (Blackboard) at King Saud University. In *World Conference on Educational Multimedia, Hypermedia and Telecommunications* (Vol. 2014, No. 1, pp. 417-431).

Al-Jarf R. S. (2007). "E-integration challenges for reactors and deans in higher education institutions in Saudi Arabia", in: *Computer and Advanced Technology in Education*, Beijing, 8-10 October 2007.

Al-Kahtani, N. K. (2006). *The Internet technololgy and its Potential Contribution to Research in Saudi Arabia: Possible Factors Influencing its utilization*. Unpublished doctoral dissertation, The George Washigton University, USA.

AlKhalifa, H.S., (2009). *The State of Distance Education in Saudi Arabia.* [online] Available at: <http://www.elearnmag.org/subpage.cfm?article=101&section=articles> [Accessed 15 Apr 2013].

Alkhattabi, M. (2014). Motivational factors for on-line distance learning an empirical investigation. In *Computer Science & Education (ICCSE), 2014 9th International Conference on* (pp. 69-74). IEEE.

Ally, M., (2008). Foundations of educational theory for online learning. In Terry Anderson(ed.) *The Theory and Practice of Online Learning* (2nd Edition)(pp. 15-44). Edmonton: AU Press, Athabasca University

AlMegren, A., & Yassin, S. Z. (2013). Learning Object Repositories in e-Learning: Challenges for Learners in Saudi Arabia. *European Journal of Open, Distance and e-Learning*, *16*(1), 115.

Almohaisen, I. (2007). E-learning in the Kingdom of Saudi Arabia. *National Centre for Distance and E-Learning Seminar.* Riyadh: Keynote

Alnujaidi, S. A. (2008). *Factors Influencing English Language Faculty Members' Adoption and Integration of Web-Based Instruction (WBI) in Saudi Arabia*. Unpublished doctor dissertation, University of Kansas.

Al-Shehri, A. M. (2010). E-learning in Saudi Arabia:'To E or not to E, that is the question'. *Journal of family and community medicine*, *17*(3), 147.

Al-Wehaibi, K., Al-Wabil, A., Alshawi, A., & Alshankity, Z. (2008, June). Barriers to internet adoption among faculty in Saudi Arabian universities. In *World Conference on Educational Multimedia, Hypermedia and Telecommunications* (Vol. 2008, No. 1, pp. 24-33).

Alzalabani, A., & Nair, R. D. (2014). *Academic Quality and Ranking: A Methodical Approach for Departmental Ranking of Colleges and Universities in Saudi Arabia.* [online] Available at: <http://earsiv.beykent.edu.tr:8080/xmlui/bitstream/ handle/123456789/347 /Academic%20Quality%20and%20Ranking%20A%20Methodical%20Approach%20for.pdf? sequence=1>[Accessed 10 Feb 2014].

Anderson, T., & Dron, J. (2012). Learning Technology through Three Generations of Technology Enhanced Distance Education Pedagogy. *European Journal of Open, Distance and e-learning*. [online] Available at: < http://files.eric.ed.gov/fulltext/ EJ992485.pdf> [Accessed 13 Apr 2013].

Association to Advance Collegiate Schools of Business, (2011). *Accreditation Standards.* [online] Available at: <http://www.aacsb.edu/en/accreditation/standards> [Accessed 27 Mar 2012].

Barnett, V. (1991). *Sample Survey Principles and Methods.* London: Edward Arnold.

Bates, R., and Khasawneh, S. (2007). Self-efficacy and college students' perceptions and use of online learning systems. *Computers in Human Behaviour, 23(1)*, 175–191.

Bates, T. (2009). *A personal view of e-learning in Saudi Arabia.* Online Learning and Distance Education Resources. [online] Available at: <http://www.tonybates.ca/2009/ 11/05/a-personal-view-of-e-learning-in-saudi-arabia> [Accessed 1 Mar 2012].

Benathy, B. H. (1992) *A Systems View of Education: Concepts and Principles for Effective Practice*. Englewood Cliffs, N.J: Educational Technology Publications.

Benson, A. D. (2002). Using online learning to meet workforce demand. *The Quarterly Review of Distance Education, 3*(4), 443–452.

Bhaskar, R. (1989). *Reclaiming Reality: A Critical Introduction to Contemporary Philosophy*, London: Verso.

Bork, A., & Gunnarsdottir, S. (2012). *Tutorial distance learning: Rebuilding our educational system* (Vol. 12). Springer Science & Business Media.

British Accreditation Council, (2011). *Accreditation Handbook.* [online] Available at: < http://www.the-bac.org/uk-accreditation/uk-accreditation-schemes/uk-college-accreditation-scheme/accreditation-handbook/> [Accessed 17 Apr 2012].

British Institute for Learning and Development, (2011). *The British Institute for Learning and Development's Quality Mark.* [online] Available at: <http://www.thebild.org/quality-assurance#a-selection-of-members-awarded-the-bild-quality-mark> [Accessed 11 Apr 2012].

Bryman, A. (1989). *Research Methods and Organisation Studies*. London: Unwin Hyman.

Bryman, A. (2006) 'Editor's introduction: Mixed methods research', in A. Bryman (ed.) *Mixed Methods.* London: Sage.

Buss, A. R. (2001). A Delphi study of educational telecollaborative projects: Identifying critical elements and obstacles. *Journal of Educational Computing Research, 24*(3), 235-248.

Byrne, D. C., Murray, J., & Koenig-Visagie, L. (2012). *Designing for gender studies in an open distance learning (ODL) context*. UNISA: institutional repository.

Cameron, R. (2009). A sequential mixed model research design: Design, analytical and display issues. *International Journal of Multiple Research Approaches*, *3*(2), 140-152.

Campbell, D.J., Moore, G. and Shrives, P.J. (2006). 'Cross-sectional effects in community disclosure', *Accounting, Auditing and Accountability Journal*, 19(1), 96–114.

Caracelli J and Greene V (1997) *'Crafting MixedMethod Evaluation designs' in Advances in Mixed-Method Evaluation: The Challenges and Benefits of Integrating Diverse Paradigms,* Greene J and Caracelli V (Eds) San Francisco: Jossey-Bass.

Carliner, S. (2004). *An Overview of online learning* (2nd Edition). Amherst, MA: HumanResource Development Press.

Chalmers, D., & Johnston, S. (2012). Quality assurance and accreditation in higher education. *Quality assurance and accreditation in distance education and e-learning: models, policies and research*, 2(4), 1-12.

Chen, L., Bai, B., Xu, Y., & Shen, X. (2011). A Student Survey on Critical Factors of Quality Assurance in Online and Distance Learning. In *24 ICDE World Conference 2011*.

Chyung, S. Y., and Vachon, M. (2005). An investigation of the profiles of satisfying and dissatisfying factors in e-learning. *Performance Improvement Quarterly, 18*(2), 97–113.

Clark, R. (2002). Six principles of effective e-learning: What works and why. *The e-Learning Developer's Journal* , 3(1), 1-10.

Coghlan, D. and Brannick, T. (2005) *Doing Action Research in Your Own Organisation* (2nd edn). London: Sage.

Collins, S. C. (2013). *From state to school: Tracing educational (act) ion through educational agencies*, Doctoral dissertation, Northern Arizona University.

Conrad, D. (2002). Deep in the Hearts of Learners: Insights into the Nature of Online Community. *The Journal of Distance Education*. 17(1), 1-19.

Cooper, D.R. and Schindler, P.S. (2008). *Business Research Methods*, (10th edn). Boston, MA and Burr Ridge, IL: McGraw-Hill.

Council for Higher Education Accreditation, (2012). *Accreditation and Assuring Quality in Distance Learning*. [online] available at: <http://www.chea.org/ zoom_search/ search_template.asp?zoom_sort=0&zoom_query=distance+learning+standards&zoom_per_page=100&zoom_and=0&zoom_cat%5B%5D=-1> Accessed [1 Apr 2012].

Creswell, J & Plano Clark V. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks CA: Sage.

Creswell, J. W. (2003). *Research Design Qualitative, Quantitative and Mixed Methods approache.* (2nd edn). California: Sage Publications.

Croft, N., Dalton, A., & Grant, M. (2011). Overcoming isolation in distance learning: Building a learning community through time, space and sector. [online] Available at: http://eprints.uwe.ac.uk/9272/3/CEBE_working_paper_26Feb2010.pdf> [Accessed 6 Apr 2013].

Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. London: Sage.

DeAntonio, M., & Johnson, S. R. (2014). Quality course development for online learning. In *2014 IEEE Frontiers in Education Conference (FIE)*.1, 1-2. IEEE.

Dede, C. J. (1996). The Evolution of Distance Education: Emerging Technologies and Distributed Learning. *American Journal of Distance Education*, 10(2), 4-36.

Delbecq, A. L., Van de Ven, A. H., & Gustafson, D. H. (1975). *Group techniques for program planning: A guide to nominal group and Delphi processes* (pp. 83-107). Glenview, IL: Scott, Foresman.

Delbridge, R. and Kirkpatrick, I. (1994) 'Theory and practice of participant observation', in V. Wass and P. Wells (eds), *Principles and Practice in Business and Management Research.* Aldershot: Dartmouth. 35–62.

Denscombe, M. (2007) *The Good Research Guide.* (3rd edn). Buckingham: Open University Press.

Denzin, N. (1970). *The Research Act: A Theoretical Introduction to Sociological Methods*. [online] available at: < http:// www.amazon.com/The-Research-Act-Introduction-Sociological/dp/0202362485> Accessed [3 Jun 2013].

deVaus, D.A. (2002) *Surveys in Social Research.* (5th edn). London: Routledge.

Dillman, D.A. (2007) *Mail and Internet Surveys: The Tailored Design Method* (2nd edn). Hoboken, NJ: Wiley.

Distance Education and Training Council, (2011). *The 18th DETC accreditation handbook.* [online] Available at: <http://www.detc.org.uk/index.php?option=com_ content&view= article&id=111& Itemid=14>1 [Accessed 12 Mar 2012].

Distance Learning Accreditation Council, (2010). *Guidelines for best distance learning practices.* [online] available at: < http://www.dlac.ie/ > Accessed [1 Feb 2012].

Dobson, P. (2002) *'Critical realism and information systems research: why bother with philosophy?.* [online] available at: < http:// www.informationr.net/ir/7-2/paper124.html > Accessed [9 Jan 2013].

Dringus, L. P., & Cohen, M. S. (2005). An adaptable usability heuristic checklist for online courses. *Frontiers in Education, 2005. FIE'05. Proceedings 35Th Annual Conference*, T2H-6.

Dron, Jon, Chris, Boyne Richard Mitchell, & Phil Siviter. (2000). *CoFIND: Steps Towards a Self-organizing Learning Environment.".* [online] available at: < http:// www/it.bton.ac.uk/staff/jd29/papers/webnet2000long.htm> Accessed [12 Mar 2011].

Drury, C. G.(1992). Methods for direct observation of performance. In (Eds.)J. R. Wilson and E. N. Corlett: *Evaluation of human work,* Taylor and Francis: London.

Du Mont, R. R., & Network, O. L. (2002). Distance Learning: A Systems View: An Assessment and Review of the Literature. [online] Available at: <http://citeseerx.ist.psu.edu/ viewdoc/ download?doi=10.1.1.104.4411&rep=rep1&type=pdf> [Accessed 2 Mar 2013].

Easterby- Smith, M., Thorpe, R. Jackson, P. and Lowe, A. (2008). *Management Research* (3rd edn). Sage: London.

Easton, G. (2010). Critical realism in case study research. *Industrial Marketing Management*, *39*(1), 118-128.

Edwards, P., Roberts, I., Clarke, M., Di Giuseppe, C., Pratap, S., Wentz, R., and Kwan, I. (2002) 'Increasing response rates to postal questionnaires: systematic review', *British Medical Journal,* (324), 83–91.

Elerini, S.E. (1999). *Attitudes of King Saudi University Faculty Toward Development and Implication of a Telecommunication-Based Distance Education Program as an Alternative to Conventional Teaching*. PhD Thesis, George Mason University.

Ellis R. & Allen, M. (2004) *Down with boring E-Learning - Interview with e-learning guru Michael Allen*. [online] available at: < http://www.astd.org/LC/2004/0704_allen.htm> Accessed [1 Feb 2013].

El-Maghraby, H., & Deanship, A. (2011). *Quality assurance in newly established universities in Saudi Arabia*. Al Jouf University: university press.

European Accreditation Council, (2010). C*riteria for the accreditation of live educational events.* [online] available at: < http://www.eaccme.eu/> Accessed [13 Feb 2012].

European Council for Business Education, (2011). *Criteria & Process.* [online] available at: < http://www.ecbe.eu/index.php?id=15 > Accessed [7 Mar 2012].

Fakeeh, M. S. (2009). *Saudization as a solution for unemployment: The case of Jeddah western region*, Doctoral dissertation, University of Glasgow.

Fink, A. (2003) *The Survey Handbook.* (2nd edn). Thousand Oaks, CA: Sage.

Frantz, G and King, J,.(2000). "The Distance Education Learning Model (DEL)". *Faculty Publications: Agricultural Leadership, Education and Communication Department.* 47. [online] available at: < http:// www.digitalcommons.unl.edu/aglecfacpub/47> Accessed [19 Feb 2013].

Gannon, R., Ley, K., Crawford, C., and Warner, A. (2009). Motivators and inhibitors for university faculty in distance and e-learning. *British Journal of Educational Technology, 40(1)*, 149–163.

Ghauri, P. and Grønhaug, K. (2005). *Research Methods in Business Studies*: *A Practical Guide* (3rd edn). Harlow: Financial Times Prentice Hall.

Ghosh, U. (2011). *The motivations and experiences of students enrolled in online science courses at the community college*, Doctoral dissertation, Colorado State University.

Gill, J. and Johnson, P. (2002). *Research Methods for Managers* (3rd edn). London: Paul Chapman.

Glaser, B. G., & Strauss, A. L. (2009). *The discovery of grounded theory: Strategies for qualitative research*. Piscataway:Transaction Publishers.

Goho, J., MacAskill, P., & McGeachie, P. (2003). Using a panel of experts to enrich planning of distance education. *Journal of Distance Education, 18*(1), 1-18.

Gokool-Ramdoo, S. (2008). Beyond the Theoretical Impasse: Extending the applications of Transactional Distance Theory. *International Review of Research in Open and Distance Learning.* [online] available at: < http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/41/a6/75.pdf> Accessed [3 May 2013].

Gooley, A., & Lockwood, F. (Eds.). (2012). *Innovation in open and distance learning: Successful development of online and web-based learning*. London; Routledge.

Grbich, C. (2012). *Qualitative data analysis: An introduction*. London: Sage.

Guba, E. and Lincoln, Y. (1994) 'Competing paradigms in qualitative research', in N.K. Denzin andY.S. Lincoln (eds) *Handbook of Qualitative Research.* London: Sage, pp. 105–17.

Guba, E. Lincoln, Y. (2001). *Fourth Generation Evaluation,* Newbury Park, CA: Sage Publications.

Guest, G., Bunce, A. and Johnson, L. (2006) 'How many interviews are enough? An experiment with data saturation and validity', *Field Methods*, 18 (1), 59–82.

Guilar, J. & Loring, A. (2008). Dialogue and Community in Online Learning: Lessons From Royal Roads University. J*ournal of Distance Education Revue de L'Éducation à distance* 22(3), 19-40.

Hakim, C. (2000) *Research Design: Successful Designs for Social and Economic Research* (2nd edn). London: Routledge.

Hammersley, M. and Foster, P., 2000. Case Study and Generalization. In: Gomm ,R.., Hammersley, M., and Foster, P., eds. *Case Study Method: Key Issues, Key Texts.* London: Sage.

Hanover Research, (2011). *Trends in Global Distance Learning*. [online] available at: < http://www.hanoverresearch.com/wpcontent/uploads/2011/12/Trends-in-Global-Distance-Learning-Membership.pdf> Accessed [18 Feb 2013].

Hashim, C. N., Kayode, B. K., Hassan, S. S. S., & Sariah, S. (2015). The Roles of Administrators in Distance Education Programme: A Case at Higher Learning Institutions. *International Journal of Social Science and Humanity (IJSSH)*, *5*(5), 479-482.

Healy, M., and Perry, C. (2000). Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm. *Qualitative Market Research*, *3*(3), 118-126.

Hewson, C., Yule, P., Laurent, D. and Vogel, C. (2003). *Internet Research Methods: A Practical Guide for the Social and Behavioural Sciences*. London: Sage.

Hill, J. R. (2002). Strategies and techniques for community building in Web based learning environments. *Journal of Computing in Higher Education, 14*(1), 67–86.

Hiltz, S. R., & Turoff, M. (2005). Education goes digital: The evolution of online learning and the revolution in higher education. *Communications of the ACM*, 48(10), 59–64.

Hofmann, D. W. (2002). Internet-based distance learning in higher education. *Tech Directions, 62*(1), 28–32

Holmberg, B., Hrsg. Bernath, & Busch, F. W. (2005). *The evolution, principles and practices of distance education* (Vol. 11). Bis

Horvat, A., Krsmanovic, M., & Djuric, M. (2012). Differences in Students Satisfaction with Distance Learning Studies. In *Proceedings of World Academy of Science, Engineering and Technology* (No. 66). World Academy of Science, Engineering and Technology.

Hsu, C. C., & Sandford, B. A. (2007a). Minimizing non-response in the Delphi process: How to respond to non-response. *Practical Assessment, Research & Evaluation*, *12*(17), 62-78.

Hsu, C. C., & Sandford, B. A. (2007b). The Delphi technique: making sense of consensus. *Practical Assessment, Research & Evaluation*, *12*(10), 1-8.

Ibrahim, M., Rwegasira, K., and Taher, A. (2007). Institutional factors affecting students' intentions to withdraw from distance learning programs in the Kingdom of Saudi Arabia: The case of the Arab Open University. *Online Journal of Distance Learning Administration, 10*(1). [online] available at: <www.westga.edu/%7E distance/ojdla/spring101/ ibrahim101.htm> Accessed [22 May 2013].

Imam Muhammad ibn Saud Islamic University, (2013a). *An overview of the deanship of Distance learning*. [online] Available at: <http://https://elearn.imamu.edu.sa/ profile/Pages/default.aspx> [Accessed 3 Feb 2013].

Imam Muhammad ibn Saud Islamic University, (2013b). *Definition of organizational units.* [online] Available at: < https://elearn.imamu.edu.sa/profile /OrganizationalUnits/ Pages/default.aspx> [Accessed 3 Feb 2013].

Indira Gandhi National Open University, (2013a). *Authorities.* [online] available at: <http://www.ignou.ac.in/ignou/aboutignou/authority/member/detail/4/Mr_Pranab_Mukherjee -4543 > Accessed [9 Dec 2013].

Indira Gandhi National Open University, (2013b). *Institutes/Centres/Cells/Units.* [online] available at: < http://www.ignou.ac.in/ignou/aboutignou/icc> Accessed [9 Dec 2013].

Indira Gandhi National Open University, (2013c). *Divisions.* [online] available at: <http://www.ignou.ac.in/ignou/aboutignou/division> Accessed [9 Dec 2013].

International Association for Distance Learning, (2012). *Code of practice.* [online] available at: < http://www.iadl.org.uk/code.htm> Accessed [26 Feb 2012].

International Association for Distance Learning, (2013). *Accreditation Bodies for Distance Learning.* [online] available at: <http://www.iadl.org.uk/Associations.htm > Accessed [21 May 2013].

International Association of Universities, (2010). *Sharing Quality Higher Education Across Borders: A Checklist for Good Practice.* [online] available at: < http://www.iau-aiu.net/content/policy-statements-0> Accessed [14 Mar 2012].

Johnson, P. and Clark, M. (2006) 'Mapping the terrain: an overview of business and management research methodologies', in P. Johnson and M. Clark. (eds) *Business and Management Research Methodologies.* London: Sage.

Jun, J. (2005). Understanding e-dropout. *International Journal on E-Learning,* 4(1),229–240.

Jung, I.(2012). Asian Learners' Perception of Quality in Distance Education and Gender Differences. *The international review of research in open and distance learning*. 2(13).

Jung, I., & Latchem, C. (2012). *Quality Assurance and Accreditation in Distance Education: Models, Policies and Research*. London: Routledge.

Kagioglou, M. Aouad, G., Cooper, R., Hinks, J. and Sexton, M. (1999). "Technology management of IT in construction: a driver or an enabler?". *Logistics Information Management.* 12(1), 130-137.

Kalaian, S. A., & Kasim, R. M. (2012). Terminating sequential Delphi survey data collection. *Practical Assessment, Research & Evaluation*, *17*(5), 2.

Kang, H. and Gyorke, A. S. (2008) Rethinking distance learning activities: a comparison of transactional distance theory and activity theory. *Open Learning: The Journal of Open and Distance Learning,23(3)*. [online] available at: < www. pdfserve.informaworld. com.libproxy.boisestate.edu/275467_731202444_904262284.pdf > Accessed [2 Apr 2013].

Keegan, D. (1996). *Foundations of distance education.* (3rd ed). London: Routledge.

King Abdul-aziz University, (2005). *The Strategic Plan for E-Learning2005-2010.* Deanship of Distance Learning. *Jeddah*: Stationery Office,

King Abdul-aziz University, (2011). *Self-assessment report.* Deanship of Distance Learning. Jeddah: Stationery Office.

King Abdul-aziz University, (2012). *The university current achievements and future*. Jeddah: University Press.

King Abdul-aziz University, (2013). *The university statistics*. Jeddah: University Press.

King Abdul-aziz University, (2014a). *Education in the virtual world*. [online] Available at: <http://elearning.kau.edu.sa/Pages-projects-a.aspx> [Accessed 14 Oct 2014].

King Abdul-aziz University, (2014b). *Journal of Distance education*. [online] Available at: <http://elearning.kau.edu.sa/Pages-projects-a.aspx> [Accessed 21 Oct 2014].

King Abdul-aziz University, (2014c). *About the deanship of Distance learning*. [online] Available at: <http:// http://elearning.kau.edu.sa/Default.aspx?Site_ID=214&lng=AR> [Accessed 21 Oct 2014].

King Saud University, (2013a). *The University achievements in statistics.* [online] Available at: <http://ksu.edu.sa/sites/ KSUArabic/Deanships/Elearn/Pages/Achievements-of-deanship. aspx> [Accessed 22 Feb 2013].

King Saud University, (2013b). *The Deanship of Distance learning.* [online] Available at: <http://ksu.edu.sa/sites/KSUArabic/Deanships/Elearn/Pages/default.aspx> [Accessed 22 Feb 2013].

King, F., Young, M., Drivere-Richmond, K. & Schrader, P. (2001). Defining Distance Learning and Distance Education. *AACE Journal*. 9 (1), pp. 1-14. Norfolk, VA: AACE

Kocdar, S., & Aydin, C. H. (2012). Accreditation of Open and Distance Learning: A Framework for Turkey. *Turkish Online Journal of Distance Education*, *13*(3), 97-120

Koohang, A., & Durante, A. (2003). Learners' perceptions toward the web-based distance learning activities/assignments portion of an undergraduate hybrid instructional model. *Journal of Information Technology Education: Research*,*2*(1), 105-113.

Kop, R., and Hill, A. (2008). Connectivism: Learning theory of the future or vestige of the past? *International Review of Research in Open and Distance Learning*, *9(1)*. [online] available at: < www.irrodl.org/index.php/irrodl/article/viewArticle/523/1103> Accessed [4 Apr 2013].

Kupczynski, L., Brown, M., Holland, G., & Uriegas, B. (2014). The Relationship between Gender and Academic Success Online. *Journal of Educators Online*,*11*(1), n1.

Kvale, S. (1996) *InterViews.* Thousand Oaks, CA: Sage.

Lin, Y.-M., Lin, G.-Y., and Laffey, J. M. (2008). Building a social and motivational framework for understanding satisfaction in online learning. *Journal of Educational Computing Research, 38(1)*, 1–27.

Marshall, C., & Rossman, G. B. (2014). *Designing qualitative research*. New York: Sage publications.

Mayfield-Johnson, S., Mohn, R. S., Mitra, A. K., Young, R., & McCullers, E. M. (2014). Attitudes on barriers and benefits of distance education among Mississippi Delta allied health community college faculty, staff, and students.*Community College Journal of Research and Practice*, *38*(6), 551-563.

Mazoue, J. G. (2014). *The MOOC model: Challenging traditional education.* [online] available at: <http://er.dut.ac.za/bitstream/handle/123456789/71/Mazoue_2013_The_MOOC_Model_Challenging_Traditional_Education.pdf?sequence=1&isAllowed=y> Accessed [18 Jan 2015].

McFarlane, D. A. (2011). The leadership roles of distance learning administrators (DLAs) in increasing educational value and quality perceptions.*Online Journal of Distance Learning Administration*, *14*(4).

Mertens, D,. (2005). *Research and Evaluation in Education and Psychology: Integrating diversity with quantitative, qualitative, and mixed methods* (2nd edn). Boston: Sage

Meyer, K. A. (2014). Quality in Distance Education: Focus on On-Line Learning. *ASHE-ERIC Higher Education Report*. Jossey-Bass Higher and Adult Education Series.

Miles, M.B. and Huberman, A.M. (1994) *Qualitative Data Analysis* (2nd edn). Thousand Oaks, CA: Sage.

Ministry of Commercial and Industry, (2009). *2009 Annual report*. Riyadh: MOCI Press.

Ministry of Education, (2010). *Executive summary of the ministry of education,* Riyadh: MOE Press.

Ministry of Higher Education, (2009). *Milestone developments of higher education.* Riyadh: MOHE Press.

Ministry of Higher Education, (2013). *Afaak: the future plan for higher education,* Riyadh: MOHE Press.

Ministry of Higher Education, (2014). *The Ministry Projects,* Riyadh: MOHE Press.

Mirza A. (2006). "Utilizing distance learning technologies to deliver courses in a segregated educational environments", in: Montgomerie C. & Seale J. (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications*, Chesapeake, AACE.

Mirza, A.A. and Al-Abdulkareem, M. (2011). Models of e-learning adopted in the Middle East. In *Applied Computing and Informatics, 9(2)*, (pp. 83-136) (July 2011). [online] Available at: < http://www.sciencedirect.com/science/article/pii/S2210832711000275> [Accessed 22 Feb 2013].

Moore, J. L., Dickson-Deane, C., Galyen, K., & Chen, W. (2010). *Designing for E-learn, Online, and Distance Learning Environments: Are They the Same*?. [online] Available at:< *http://web.missouri.edu/~cd8z7/docs/papers/aera2010proposal_terminology.pdf*> [Accessed 18 Mar 2013].

Moore, M. G. (1990). Background and Overview of Contemporary American Distance Education. In *Contemporary Issues in American Distance Education*, ed. M. G. Moore, xii-xxvi. New York: Pergamon Press.

Moore, M. G. (Ed.). (2013). *Handbook of distance education*. London: Routledge

Moore, M. G., & Kearsley, G. (2012). *Distance education: A systems view of online learning*, (3rd ed.). New York: Wadsworth/Cengage.

Moore, M. G., & Kearsley, G. (1996). *Distance education: A systems view*. New York: Wadsworth Publishing Company.

Muniandy, B., & Veloo, S. (2011). Views of Pre service Teachers in Utilizing Online Video Clips for Teaching English Language. *International Journal of Social Science and Humanity*, *1*(3), 224.

National Accreditation Board, (2009). *Qualifications framework.* [online] Available at: < http://www.mqa.gov.my/portalMQA/default/en/mqf.cfm> [Accessed 12 Mar 2012].

National Centre for E- learning and Distance Learning, (2010). *The Centre Aims*. [online] Available at: <http://www.elc.edu.sa/portal/index.php?mod=content&page> [Accessed 25 October 2011].

National Centre for E-learning and Distance Learning, (2011). *Digital Dimensions*. [online] Available at: < http://jusur.elc.edu.sa/9thseminar/nash.pdf/> [Accessed 10 Dec 2011].

National Centre for E-learning and Distance Learning, (2013). *Electronic materials: improvements and cooperation*. [online] Available at: < http://jusur.elc.edu.sa/11thseminar/ > [Accessed 23 Nov 2013].

National Commission for Academic Accreditation & Assessment, (2013). *Orientation Handbook for NCAAA Review Team.* Riyadh: MOHE Press.

Neuman, W.L. (2005) *Social Research Methods* (6th ed). London: Pearson.

Newby, T. J., Stepich, D. A., Lehman, J. D., & Russell, J. D. (2000). *Instruction Technology for Teaching and Learning*. Upper Saddle River, NJ: Merrill.

Newton, D., Hase, S., & Ellis, A. (2002). Effective implementation of online learning: A case study of the Queensland mining industry. *Journal of Workplace Learning, 14*(4), 156-165.

Nichols, M. (2003). A theory for elearning. *Educational Technology & Society*, 6(2), 1-10.

Oblinger, D & Oblinger, J., (2005). Educating the net generation. Educause. [online] Available at: < www.educause.edu/educatingthenetgen/.> [Accessed 12 Mar 2013].

Ocak, M. A. (2011). Why are faculty members not teaching blended courses? Insights from faculty members. *Computers & Education*, *56*(3), 689-699.

Ohara, M. (2004). Maximazing e-learning Roi: Identifying successful online learners . *Allied Academies International Conference, 8*(1), 49-54.

Oomen-Early, J., and Murphy, L. (2009). Self-actualization and e-learning: A qualitative investigation of university faculty's perceived needs for effective online instruction. *International Journal on E-Learning, 8*(1), 223–240.

Open and Distance Learning Quality Council, (2011). *ODLQC Standards.* [online] available at: http://odlqc.org.uk/odlqc-standards > Accessed [29 Mar 2012].

Open University, (2013a). *Management.* [online] available at: <http://www.open.ac.uk/about/main/management> Accessed [13 Dec 2013].

Open University, (2013b). *Faculties & centres.* [online] available at: <http://www.open.ac.uk/about/main/faculties-centres> Accessed [13 Dec 2013].

Open University, (2013c). *Strategy.* [online] available at: <http://www.open.ac.uk/about/main/strategy> Accessed [13 Dec 2013].

Open University, (2013d). *Mission.* [online] available at: < http://www.open.ac.uk/about/main/mission> Accessed [13 Dec 2013].

Parsons, N., Lacks, R. D., and Grant, P. H. (2008). A comparative assessment of student learning outcomes in large online and traditional campus-based introduction to criminal justice course. *Criminal Justice Studies, 21(1)*, 239–251.

Patton, M.Q. (2002) *Qualitative Research and Evaluation Methods* (3rd edn). Thousand Oaks, CA: Sage.

Pollard, P. (2014). *How Significant ls "Significance"?. A Handbook for Data Analysis in the Behaviorial Sciences: Volume 1: Methodological Issues Volume 2: Statistical Issues*, 449.

Prestera, G., and Moller, L,. (2001) "Organizational Alignment Supporting Distance Education in Post-secondary Institutions.". *Online Journal of Distance Learning Administration* 4 (4), 22-28.

Quacquarelli Symonds, (2014). *QS World University Rankings® explained.* [online] available at: < http://www.qs.com/qs-world-university-rankings.html> Accessed [2 Jan 2014].

Quality Assurance Agency for Higher Education, (2012). *The quality code.* [online] available at: < http://www.qaa.ac.uk/assuring-standards-and-quality > Accessed [11 Mar 2012].

Radford, A. W. (2011). Learning at a Distance: Undergraduate Enrollment in Distance Education Courses and Degree Programs. Stats in Brief. NCES 2012-154. *National Center for Education Statistics*.

Reda, G., & Hamdan, A. (2015). Gender, Language, and Society: Saudi Female University Students' Perception of the Category of Professions. *Multidisciplinary Journal of Gender Studies*, *4*(2), 666-689.

Rekkedal, T., & Qvist-Eriksen, S. (2003). Internet Based E-learning, Pedagogy and Support Systems. [online] available at: < http://learning.ericsson.net/socrates/doc/ norway.doc> Accessed [22 Mar 2013].

Relan, A., & Gillani, B. B. (1997). Web-based instruction and the traditional classroom: similarities and differences. In B. H. Khan (Ed.), *Web-based instruction* (pp. 41-46). Englewood Cliffs: Educational Technology Publications.

Remenyi, D., Williams, B., Money, A. and Swartz, E. (1998). *Doing Research in Business and Management: An Introduction to Process and Method*. London: Sage.

Robertson, I.,(2008). Sustainable e-learning, activity theory and professional development. *In Hello! Where are you in the landscape of educational technology? Proceedings oscillate Melbourne 2008.* [online] Available at: <http:// www.ascilite.org.au/conferences/ melbourne08/ procs/robertson.pdf> [Accessed 8 Mar 2013].

Robson, C. (2002). *Real World Research: A Resource for Social Scientists and Practitioner-Researchers,* 2nd edn. Oxford: Blackwell.

Roby, T., Ashe, S., Singh, N., & Clark, C. (2013). Shaping the online experience: How administrators can influence student and instructor perceptions through policy and practice. *The Internet and Higher Education*, *17*, 29-37.

Rockwell, K., Furgason, J., & Marx, D. B. (2000). Research and evaluation needs for distance education: A Delphi study. *Online Journal of Distance Learning Administration, 3*(3). 29-37.

Rodriguez, V. P. (2011). *Relationships between student characteristics and student persistence in online classes at a community college*. Doctoral dissertation, California State University, Long Beach.

Rossiter, J. (2002). *An e-Learning vision: Towards a Pan-Canadian strategy and action plan*. [online] available at: < http://www.canarie.ca/funding/elearning/elearningvision.pdf> Accessed [16 Feb 2013].

Russell, T. L. (1999). *The no significant diference phenomenon.* Raleigh: North Carolina State University.

Sahab, S. (2005). Starting e-learning program at King Abdul-Aziz University in Saudi Arabia. In P. Kommers & G. Richards (Eds.), *Proceedings of World Conference on Educational Multimedia, Hypermedia and Telecommunications 2005,* 613-618. Chesapeake, VA: AACE.

Saudi Electronic University, (2014a). *About the university.* [online] Available at: <https://www.seu.edu.sa/sites/ar/Pages/main.aspx > [Accessed 12 Mar 2014].

Saudi Electronic University, (2014b). *The university Administration.* [online] Available at: <https://www.seu.edu.sa/sites/ar/Administration/Pages/main.aspx> [Accessed 12 Mar 2014].

Saudi Electronic University, (2014c). *The university Deanships.* [online] Available at: <https://www.seu.edu.sa/sites/ar/deanships/Pages/main.aspx> [Accessed 12 Mar 2014].

Saunders, M. N., Saunders, M., Lewis, P., & Thornhill, A. (2011). *Research methods for business students,* 5th ed, India: Pearson Education.

Saunders, M., Lewis, P. and Thornhill, A. (2009). *Research methods for business students,* 5th ed.*,* Harlow: Pearson Education.

Savage, C. M. (2013). Dark Matters: On-line Education and Organizational Dynamics. *Journal of Higher Education Theory and Practice*, *13*(2), 76-83.

Shanteau, J. (1992). Competence in experts: The role of task characteristics.*Organizational behavior and human decision processes*, *53*(2), 252-266.

Siemens, G. (2014). Connectivism: *A learning theory for the digital age*. [online] Available at:<httphttp://er.dut.ac.za/bitstream/handle/123456789/69/Siemens_2005_Connectivism_A_learning_theory_for_the_digital_age.pdf?sequence=1> [Accessed 17 Feb 2013].

Silverman, D. (2013). *Doing qualitative research: A practical handbook*. Thousand Oaks: SAGE Publications Limited.

Song, L., Singleton, E. S., Hill, J. R., & Koh, M. H. (2004). Improving online learning: Student perceptions of useful and challenging characteristics. *Internet and Higher Education, 7*, 59–70.

Sperber, A. D., Devellis, R. F., & Boehlecke, B. (1994). Cross-cultural translation methodology and validation. *Journal of cross-cultural psychology*,*25*(4), 501-524.

Stokes, D. and Bergin, R. (2006) 'Methodology or "methodolatry"? An evaluation of focus groups and depth interviews', *Qualitative Market Research,* 9 (1), pp. 26–37.

Tabata, L. N., and Johnsrud, L. K. (2008). The impact of faculty attitudes toward technology, distance education, and innovation. *Research in Higher Education, 49(1)*, pp. 625–646.

Tashakkori, A. and Teddlie, C. (2003) *Handbook of Mixed Methods in Social and Behavioural Research.* (eds). Thousand Oaks, CA: Sage.

Tavangarian, D., Leypold, M. E., Nölting, K., Röser, M., & Voigt, D. (2004). Is e- Learning the solution for individual learning. *Electronic Journal of e-Learning*, 2(2), 273-280.

Terry, A. (2011). Three Generations of Distance Education Pedagogy. [online] Available at: < http://www.irrodl.org/index.php/irrodl/article/view/890/1663> [Accessed 1 Apr 2013].

The Best School, (2014). *Our Ranking System: How We Rank Schools at TBS.* [online] available at: <http://www.thebestschools.org/rankings/our-ranking-system-of-schools/> Accessed [4 Jan 2014].

The United States Distance Learning Association, (2010). *The United States Distance Learning Association Quality Standards Certification.* [online] Available at: <https://www.usdla.org/resources/errc/> [Accessed 7 Apr 2012].

Thompson, S. K. (2002) *Sampling* (2nd ed.) New York: Chichester.

Triacca, L., Bolchini, D., Botturi, L., & Inversini, A. (2004). Mile: Systematic usability evaluation for e-Learning web applications. In *World Conference on Educational Multimedia, Hypermedia and Telecommunications* (Vol. 2004, No. 1, pp. 4398-4405).

Universitas Terbuka, (2013a). *Strategic Plan.* [online] available at: <http://www.ut.ac.id/en /content/strategic-plan> Accessed [17 Dec 2013].

Universitas Terbuka, (2013b). *Quality Assurance.* [online] available at: <http://www. ut.ac.id/en/content/quality-assurance> Accessed [17 Dec 2013].

Universitas Terbuka, (2013c). *Learning System.* [online] available at: <http://www. ut.ac.id/en/content/learning-system > Accessed [17 Dec 2013].

University of Maryland – University College, (2014a). *Learning Experience Online (LEO).* [online] available at: <http://www.umuc.edu/students/leo/> Accessed [3 Jan 2014].

University of Maryland – University College, (2014b). *Access and support.* [online] available at: <http://www.umuc.edu/getstarted-undergrad/access-support/> Accessed [3 Jan 2014].

University of Maryland – University College, (2014c). *Online Degree and Certificate Programs at University of Maryland University College.* [online] available at: < http://www.umuc.edu/academic-programs> Accessed [3 Jan 2014].

University of South Africa, (2014a). *Governance & management.* [online] available at: < http://www.unisa.ac.za/Default.asp?Cmd=ViewContent&ContentID=8> Accessed [6 Jan 2014].

University of South Africa, (2014b). *Facts & figures.* [online] available at: < http://www.unisa.ac.za/Default.asp?Cmd=ViewContent&ContentID=18123> Accessed [6 Jan 2014].

University of South Africa, (2014c). *Service departments.* [online] available at: < http://www.unisa.ac.za/Default.asp?Cmd=ViewContent&ContentID=103> Accessed [6 Jan 2014].

University of South Africa, (2014d). *Who we are.* [online] available at: < http://www.unisa.ac.za/Default.asp?Cmd=ViewContent&ContentID=27363> Accessed [6 Jan 2014].

Vagias, Wade M. (2006). *Likert-type scale response anchors*. Clemson International Institute for Tourism & Research Development, Department of Parks, Recreation and Tourism Management. Clemson University.

Valai, A., Crawford, D., & Moore, K. (2015, March). Evaluating distance learning: Quality indicators from a learner's perspective. In *Society for Information Technology & Teacher Education International Conference* (Vol. 2015, No. 1, pp. 8057-8067).

Volery,T. & Lord, D. (2000). Critical success factors in online education. *The International Journal of Educational Management, 14*(5), 216-223

Wang, J., Doll, W. J., Deng, X., Park, K., & Yang, M. G. M. (2013). The impact of faculty perceived reconfigurability of learning management systems on effective teaching practices. *Computers & Education*, *61*, 146-157.

Willging, P. A., & Johnson, S. D. (2004). Factors that influence students' decision to dropout of online courses. *Journal of Asynchronous Learning Networks, 8*(4), 2-15.

Wolfenden, F., & Murphy, P. (2013). *Promoting gender inclusion in a distance learning course to increase female recruitment to teaching.* [online] available at: http://pcfpapers.colfinder.org/bitstream/handle/5678/31/Paper%20230%20%20(Supplementary%20File).pdf?sequence=1> Accessed [3 May 2013].

Yin, R.K. (2003). *Case Study Research:* Design and Method (3rd ed). London: Sage.

Zachariadis, M., Scott, S. V., & Barrett, M. I. (2010). Exploring critical realism as the theoretical foundation of mixed-method research: evidence from the economies for IS innovations. [online] available at: http://www.jbs.cam.ac.uk/faculty-research/publications/working-papers/> Accessed [23 Jan 2013].

Appendix 1

MEASURES TO PROMOTE THE TRUSTWORTHINESS OF THE INTERVIEWS

Applied measures to promote the trustworthiness of the interviews		Description
Before the interviews	**In the recruitment stage, based on recommendations by Hewson et al. (2003)**	Emails were sent to the targeted participants from an account that was provided by the University to make sure that the emails would not be classified by the intranet provider as junk mail. Recruitment emails were sent individually to guarantee participants' anonymity with no attachments (to avoid participants being suspicious of virus contents); all the information was written as a message.
		The recruitment emails seeking the participants' approval for the interviews contained brief information regarding the interview purpose, duration, interview and themes. After receiving the approval response from the participants, a copy of the consent form was emailed to the participants to review and add any necessary comments or enquiries and to decide upon a convenient time and place (telephone number for the female participants) for them to participate in the interview.
		It was explained in the email that the participants should review the consent form and send any necessary comments or enquiries to the sender. They were assured that further explanations would be given before the actual interview and the consent form was to be signed before the interview (or read to, and approved by, the participants in the case of recorded telephone interviews).
		A final email was sent to confirm the interview time. Follow-up emails were sent after one week from the original email to non-respondents to offer them another chance to participate and to enable the researcher to seek other possible participants if necessary.
During the interviews	**Interviewer/interviewee bias and interviewer's credibility**	To reduce interviewer/interviewee bias, many arrangements suggested by Easterby-Smith et al. (2008) were in place to promote the interviewer/interviewee relationship of trust and credibility, as this highly affects the trustworthiness and credibility of the collected data. In doing so, the use of well-defined themes elicited from the literature (see the study evaluative framework) helped the researcher to focus on these themes and avoid imposing his own beliefs or thoughts on the interviewee by asking leading questions or misusing comments or tones. In conjunction with this, it helped the researcher to build his credibility by exposing his high level of knowledge of the topic and also enabled him to supply the interviewee with the themes that were expected to be discussed in the interview (Appendices 5 and 6), which reduced the issue of lack of credibility and promoted the trustworthiness of the collected data, as it offered the interviewee an opportunity to be well-equipped with the required information before the interview.

	Time, place and appearance	Robson (2002) suggests that the time and place factor raise issues that are related to interviewee/interviewer bias, as time-consuming interviews tend to reduce the willingness of the participants to participate or answer additional questions and the location in which the interview takes place may also have an adverse effect. Therefore, in compliance with Robson's (2002) recommendation, the interview time was indicated in the interview information email and interviewees were asked to choose a convenient time and place (as long as it complied with research ethics) to conduct the interview, along with an option to divide the interview time into short meetings. In line with this, many possible factors that promote the positive and trustworthy discussion suggested by Robson (2002) were taken into account. These included acceptable appearance; demonstrating an interest in the interviewee's role and position; and the adoption of a neutral posture.
	Questions	In addition, issues related to the interview questions were taken into consideration during the interview. Procedures suggested by Easterby-Smith et al. (2008) were employed to promote the trustworthiness and dependability of the collected data. Accordingly, the interview questions were clearly phrased and asked in a neutral tone to avoid bias. The researcher avoided long or jargonistic questions. The researcher started with opinion-seeking questions and used probing questions to clearly understand the interviewee's meaning and reasons behind the answers. Supplementary questions were used to rephrase the original questions in cases where the interviewee response failed to reveal information related to the desired theme. Enough time was allowed for the interviewees to develop their responses.
During the interviews	**Notes**	In adherence to Ghauri and Grønhaug's (2005) recommendations, notes were taken after each question to summarise the responses, which helped the researcher to remain focused during the interview, and eventually helped to evaluate the researcher's interpretation by allowing the interviewee a chance to revise the researcher's notes (summary) after the interview. By doing so, the researcher was able to reduce interviewer bias and promote the trustworthiness of the interpretation.
	Conducting telephone interviews with female participants	According to Saunders, Lewis and Thornhill (2009), telephone interviews should be shorter than face-to-face interviews, as they are associated with less willingness for long discussions and more attention should be paid to the interviewee's tone and verbal cues to compensate for the absence of visual cues. Therefore, most telephone interviews were recorded to allow the researcher to write his notes immediately after the interview (as it was difficult to write notes during the telephone interview), to help him create an actual account of the interview and provide the interviewee with a summary of the discussion the next day. By doing so, the researcher was able to evaluate his interpretation of the interviewee's answers in light of the interviewee's revision the next day (in some cases, the next two or three days, or the same day) to promote the trustworthiness of the findings.

After the interview	**Credibility (internal validity) and dependability (reliability)**	After each interview, many procedures that were suggested by Guba and Lincoln (2001) were applied to reduce the possibility of making biased or inaccurate interpretation. As notes were taken during the interviews, a summary of the interview notes was provided to the interviewee to read through and change any inaccurate information or add extra information to promote the credibility of the findings. Yin (2003) suggested that the nature of the embedded case study helps to increase the study findings' credibility by comparing and contrasting results of every individual unit of analysis inside the overall case studied. Accordingly, the study utilised the characteristics of the embedded case study strategy to compare and contrast between results of every DL college inside the overall unit (KAU University), which is manifested in the analysis of the qualitative data (see Chapter V). Furthermore, in adherence to Guba and Lincoln's (2001) recommendations, the interviews were transcribed as soon as possible after the interview and contextual information (location, settings, time, participants' information, and the researcher's impressions) were compiled in the form of notes to promote dependability.
	Transferability (external validity) and conformability (objectivity)	Conformability refers to the degree to which findings can be confirmed by others (Guba and Lincoln, 2001). Here findings were discussed with two of the researcher's colleagues to address issues related to the methodological steps; reasons were provided to explain the researcher's interpretations and further possible explanations. By doing so, the researcher was able to promote conformability by confirming his interpretation with other colleagues. Transferability refers to the ability to generalise or transfer results to other contexts or settings. It depends heavily on factors that enable the researcher to make sensible transfer of the findings (Guba and Lincoln, 2001). The study's ability to transfer its findings is discussed in the limitation section (see Chapter VII: the study limitation).

Appendix 2

THE STUDENTS QUESTIONNAIRE

Dear Student

This questionnaire is designed to seek your opinion of the quality of the current DL system in your university. There are five different sections to complete. Each section consists of statements to which you can choose only one response. Filling in this questionnaire does not require you to give any information that enables the researcher to recognise you, so make sure that no information that reveals your identity is included. Please read the consent form carefully and sign it before you start filling in the questionnaire's six pages.

A- The participant's profile:

Please tick which apply to you:

<table>
<tr><td>1- Gender:

- Male ☐

- Female ☐</td><td>2- Age:

- 18-30 ☐

- 30-45 ☐

- More than 45 ☐</td></tr>
<tr><td>3- Level of Education:

- Secondary ☐

- Bachelor ☐

- Master ☐

- PhD ☐</td><td>4- Related department:

- Rabigh Business School ☐

- Programme of graduate studies ☐

- College of economics and administration ☐

- College of art and humanities ☐</td></tr>
<tr><td colspan="2">5- Experience in distance leaning

- No experience ☐

- One semester- one year ☐

- More than one year ☐</td></tr>
</table>

I- Institutional mission

1- The same distance learning policies (i.e., course registration and withdrawal, requests, enquiries etc.) are applied in all distance learning programmes.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

2- The Deanship of Distance Learning has a clear role in organising all distance learning operations and processes.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

3- Distance learning service departments and colleges recognise other departments' and colleges' procedures/regulations and collaborate accordingly**.**

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

4- Distance learning courses are scheduled and consistent from semester to semester.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

5- The University offers a variety of distance learning programmes that accommodate distance learning students' needs.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

6- The University makes it clear that distance learning is equal to traditional learning in:

Please tick one for each item	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
1- Policies and regulations					
2- Course requirements					
3- Accreditation (in course credits and their transferability to traditional learning credits)					
4- Certification (availability and acceptability)					
5- Content and assessment					

7- The University successfully emphasises the importance of distance learning for students.

○Yes ○No

If No, please specify

……

……

8-The University makes information related to distance learning requirements (i.e., time, skills, technological needs etc.) and policies (i.e., regulations, attendance, registration and withdrawal, accreditation, certification) available and accessible.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

9- My distance learning programme equals the traditional face-to-face programme in terms of:

Please tick one for each item	Yes	No
1- Accreditation of the course		
2- Certification of the course		

If No, please specify

……

……

10- My distance learning programme equals the traditional face-to-face programme in academic requirements with regards to:

Please tick one for each item	Yes	No
1- Learning materials		
2- Content of the course		
3- Assessment methods		

If No, please specify

……

……

II- Technology

11- ODUS systems provide easy and smooth access to all academic services (i.e., course registration and withdrawal, requests, enquiries etc.).

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

12- Distance learning materials and course contents can be easily accessed through the EMES system.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

13- CENTRA provides adequate and easy access to synchronous classes.'

○Yes ○No

If No, please specify

……

……

14- The following distance learning applications are easy to use:

Please tick one for each item	Yes	No
1- ODUS		
2- EMES		
3- CENTRA		

If No, please specify

……

……

15- A variety of technological aids and facilities are used to enhance the students' learning.

Please tick one for each item	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
1- During synchronous classes					
2- In the recorded learning materials					

16- The University provides distance learning students with access to a variety of electronic reserves (access to regional or national library databases).

○Yes ○No

If No, please specify

……

……

17- The University provides a sustainable connection that enables distance learning students to access distance learning application programs smoothly and accommodates different internet connection speeds and methods (modem, broadband, 3G).

○Yes ○No

If No, please specify

……

……

18- Classrooms for synchronous classes are well-equipped with technological aids, hardware and software to meet the distance learning courses' needs.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

19- Faculty members use classroom equipment properly to enhance distance learning students' learning.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

20- Staff in the student services department and its technical support centre are familiar with distance learning students' enquiries.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

21- The technical support centre responds to distance learning students' enquiries in a timely fashion.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

22- The technical support centre provides a variety of communication options (e.g., email, phone lines, online chat, in person etc.).

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

23- The technical support centre can be contacted during/at a wide range of times.

○Yes ○No

If No, please specify

……

……

III- Instructional support

24- A variety of technological aids, facilities and learning materials are used in different ways in distance learning courses to coincide with the courses' needs.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

25- Faculty members are competent at performing tasks on the distance learning application programs.

Please tick one for each item	Yes	NO
1- EMES		
2- CENTRA		

If No, please specify for each item

……

……

26- Different distance learning courses use the same standards.

Please tick one for each item	Strongly Agree	Agree	Not sure	Disagree	Strongly Disagree
1- Standardised Interface screen					
2- Standardised tasks					
3- Standardised tools					

27- The University offers scheduled training for students in distance learning technological aspects.

○Yes ○No ○Occasionally

If No, please specify

……

……

28- Faculty members respond to students' enquiries in a timely fashion (through the EMES system).

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

IV- Student support

29- Distance learning students can register and pay online.

○Yes ○No ○With difficulties

If No or with difficulties, please specify

……

……

30- The University offers training courses on distance learning requirements, policies and procedures.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

31- Information about distance learning requirements, policies and procedures are available in many formats (e.g., website, pamphlets, CD etc.)

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

32- The University website provides detailed information about the offered distance learning courses (e.g. scheduled courses, class times, synchronous communication availability).

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

33- The University provides distance learning students with access to the on-campus university library services in parallel with the provided library online access.

○Yes ○No ○Not sure

34- The University provides students with access to activities related to career and professional development (e.g., networking, training, conferences and workshops).

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

35- Online testing services accommodate a range of distance learning students' internet speeds.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

36- Distance learning students' needs and enquiries are responded to by the student services department.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

37- The student service centre enables distance learning students to acquire services from other service departments with no need to directly contact the concerned service department.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

38 - Student service centre procedures are recognised by other distance learning service departments.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

V-Evaluation

39- The University offers the distance learning students channels (e.g., student services feedback, forums, links etc.) to communicate their needs.

○Strongly Agree ○Agree ○Not sure ○ Disagree ○Strongly Disagree

40- The University seeks distance learning students' feedback with regard to distance learning:

Please tick one for each item	Yes	No	If yes, please identify the method used here
1- Distance learning policies			
2- Distance learning academic services			
3- Distance learning delivery systems and applications			
4- Distance learning materials			
5- Distance learning faculty performance			

41- The University applies a variety of assessment methods (e.g., assignments, group works, online testing, quizzes) to assess distance learning students.

○Yes ○No

If No, please specify

……

……

42- The final examination for distance learning students consists of a variety of questions, not only multiple-choice questions.

○Yes ○No

If No, please specify

……

Comment section:

If you have any comments related to the effectiveness of distance learning at the University, please write it in the comment section below:

……

……

……

……

……

……

……

……

……

……

……

Appendix 3

THE DELPHI SURVEY

Dear participant:

You have been selected as an expert in the distance learning field in the country to participate in an iterative survey to reach a consensus on agreement towards the study of proposed solutions to improve the implementation of quality distance learning in Saudi Arabia. This survey contains four pages (including this page) and six different dimensions/categories; each has items that represent solutions pertinent to the implementation of quality distance learning related to the dimension. Solutions have been identified using many data collection techniques (administrators' and faculty members' interviews, documentation, observation and students' survey) and studies in the field. Please rate your level of agreement on these solutions using a 1 to 7 scale system where 1= "strongly agree", 2= "agree", 3= "somewhat agree", 4= "neither agree nor disagree", 5= "somewhat disagree", 6= "disagree" and 7= "strongly disagree". A space is provided after each dimension/category for any further comments/suggestions (optional).

	I-Institutional mission dimension	Rate
1	The introduction of regulations by the Ministry of Higher Education that define the Deanship of Distance Learning role in Saudi universities is a necessity to solidify the Deanship of Distance Learning role as the legitimate centre for distance learning regulations in Saudi universities to promote the consistency of distance learning regulation at the university and enforce cooperation between distance learning colleges and departments.	
2	The introduction of regulations by the Ministry of Higher Education that regulate a national marketing plan is necessary to attract more distance learning students and faculty members and enable the university to found more degrees.	
3	The introduction of regulations by the Ministry of Higher Education that communicate the importance and validity of distance learning certificates in the job market is necessary to attract more distance learning students and faculty members, which in turn enable the university to found more degrees.	
4	The introduction of regulations by the Ministry Of Higher Education that address the distance learning budget helps the Deanship of Distance Learning to receive a designated financial budget to improve the current implementation of distance learning marketing and course scheduling schemes.	

Comment section:

……
……
……
……
……

	II- Technology Dimension:	Rate
5	Sufficient authority should be devolved to the Deanship of Distance Learning to have control over distance learning departments and colleges in order to enforce and organise a collaborative effort of all the departments and colleges involved to overcome problems associated with the inadequacy of the provided accessibility to distance learning delivery requirements.	
6	The introduction of regulations by the Ministry of Higher Education that encourages regional college relationships helps to provide more accessibility to a variety of electronic reserves across all Saudi universities.	
7	The establishment of a designated course development department and the employment of the so-called Saudization plan* present cost-effective solutions that help organise the courses' development and restoration process at Saudi universities.	
8	The introduction of regulations by the Ministry of Higher Education that address the distance learning budget is needed to help distance learning universities in the country allocate their budget meaningfully to take account of essential needs for distance learning, such as the establishment of a designated distance learning technical support centre.	

***** The Saudization plan is a scheme that was introduced by the Saudi government in 2006 to employ the growing numbers of unemployed skilled Saudi citizens. It is based on the notion that foreign workers must be replaced by Saudi citizens who have the required skills.

Comment section:

……
……
……
……
……

	III- Instructional support dimension:	Rate
9	The active engagement of faculty members in the development process for distance learning courses, which entails the provision of training, assistants, and time for them to design and use the technology that meets the courses' needs.	
10	The designation of a course development department and the employment of the so-called "Saudization" plan sustain the consistency of the institutional standards applied in the development of the distance learning courses.	
11	The recognition of the Deanship of Distance Learning role and full responsibility for providing scheduled training for distance learning students and faculty members helps promote distance learning activities related to the use of distance learning applications (e.g., levels of synchronous communication, participation in course related forums).	
12	The introduction of regulations by the Ministry of Higher Education that communicate recognition and provision of time for faculty members to engage in distance learning activities related to distance learning instructional methods contributes to encouraging faculty members to respond to distance learning students in a timely manner and engage in distance learning related activities.	

Comment section:

……
……
……
……
……

	IV- Faculty support dimension:	Rate
13	The promotion of the Deanship of Distance Learning role (as the central authority for all distance learning regulations at the university) promotes the Deanship of Distance Learning's ability to reward faculty members for their participation, innovation and performance in the distance learning field.	
14	The introduction of clear regulations by the Ministry of Higher Education that address distance learning faculty members' rewards promotes the Deanship of Distance Learning's ability to reward faculty members (career-wise) for their participation, innovation and performance in the distance learning field.	
15	The introduction of regulations by the Ministry Of Higher Education that address the distance learning budget promotes the Deanship of Distance Learning's ability to financially reward faculty members for their participation, innovation and performance in the distance learning field.	

Comment section:

……
……
……
……
……

	V- Student support dimension:	Rate
16	The promotion of the Deanship of Distance Learning role (as the central authority for all distance learning regulations at the university) enforces cooperation between distance learning departments and colleges and entails more consistency in the distance learning regulations, which helps the Deanship of Distance Learning to unify the registration process for distance learning students.	
17	The promotion of the Deanship of Distance Learning role (as the central authority for all distance learning regulations at the university) enforces cooperation between distance learning departments and colleges and entails more consistency in the distance learning regulations, which helps the Deanship of Distance Learning to oblige distance learning colleges to communicate any activities related to students' career and professional developments to the Deanship of Distance Learning in order to be able to disseminate such activities to distance learning students in the concerned colleges.	
18	The promotion of the Deanship of Distance Learning role (as the central authority for all distance learning regulations at the university) enforces cooperation between distance learning departments and improves recognition and response to students' needs through the student services department.	
19	Online testing services as part of the Deanship of Distance Learning ought to benefit from enforcing cooperation between distance learning departments and colleges and the Deanship of Distance Learning by opening a controlled channel that allows online products (including online testing) to be enhanced based on a collaborative effort between distance learning technological departments and distance learning colleges and service departments.	

Comment section:

……
……
……
……
……

	VI- Evaluation dimension:	Rate
20	The introduction of clear regulations by the Ministry of Higher Education that address the distance learning evaluation scheme provides administrators with the wherewithal to ensure an evaluation scheme that is parallel to the TL scheme in consistency, regularity and procedures.	
21	The introduction of clear regulations by the Ministry of Higher Education that address the distance learning budget provides administrators with the wherewithal to ensure an evaluation scheme that is parallel to the TL scheme in consistency, regularity and procedures.	
22	The active engagement of faculty members in the development process of designing the assessment methods and courses for their distance learning classes contributes to the construction of effective assessment tools for distance learning students' outcomes.	

Comment section:

……
……
……
……
……

Appendix 4

LEVELS OF AGREEMENT BETWEEN EVIDENCES COLLECTED BY THE DIFFERENT DATA COLLECTION TECHNIQUES USED IN THE STUDY CLASSIFIED BY THE STUDY FRAMEWORK'S SIX DIMENSIONS

Information key:
Red text = new criteria emerged from the data.
A = Evidences collected from the administrators' semi-structured interviews.
F = Evidences collected from the faculty members' semi-structured interviews.
D = Evidences collected from the documentation.
O = Evidences collected from the observations.
S = Evidences collected from the student surveys.
X= Not implemented.
√= Implemented.

	I-Institutional mission dimension		**A**	**F**	**D**	**O**	**S**
1	Criteria of sufficient authority	Consistency of the DL regulations	x	x		x	x
		Adequate cooperation between DL concerned departments, colleges and DDL	x	x			x
		Clarity of the Ministry of Higher Education regulations that address DL	x		x		x
		The recognition of the Deanship of Distance Learning role	x	x			x
2	Criteria of adequate DL course scheduling and provision of the needed DL programmes/degrees	Adequate DL degrees and programmes that meet the community needs	x	x		x	x
		Adequacy of the registered DL students	x		x		
		Adequacy of the DL faculty members	x		x		
		Accessibility to the needed fund for DL	x				
		Efficient course scheduling plan	√	x		x	x
3	Criteria of adequate marketing plan for DL	Sufficient arrangements to promote DL importance and communicate DL requirements and expectations	x	x		x	x
		Availability of national marketing plan	x	x	x		
4	Criteria of DL equivalency to TL	Same TL programmatic requirements are applied	√	√	√	√	√
		Recognition and accreditation of DL certificates	x	x	x	x	x
		Adequate communication and coordination between the Ministry of Higher Education and the Ministry of Civil Services	x				x

	II- Technology Dimension:		A	F	D	O	S
5	Criteria of accessibility to DL delivery requirements	Adequate integration between DL applications	x	x		x	x
		Accessibility to a variety of electronic reserves through university partnerships	x	x	x		
		Recognition of the Deanship of Distance Learning role	x				
		Availability of regulations that encourage regional college relationships	x				
		Adequate accessibility and manageability of the used DL applications	√	x		x	x
		Adequate provision of synchronous communication	√	x		x	x
		Adequate cooperation between DL concerned departments and colleges and the Deanship of Distance Learning	x		x		
6	Criteria of sufficient technological infrastructure	Efficient plans to fund and organise the courses' development and restoration process	x	x	x	x	
		Freedom from dependence on outsourcing companies	x		x		
		Efficient delivery of DL classes (through the network infrastructure)	√	√	√		x
7	Criteria of efficient technical support	Technical centre equipped with adequate hardware and software	x	x	x	x	
		Adequate training provided for personnel in the support centre	x	x	x	x	x
		Provision of adequate technical support times and communication options for DL recipients	x	x	x	x	x
		Inclusion of DL budget in the university budget cycle	x		x		
		Availability of a designated technical support centre	x	x	x	x	
		Availability of Ministry of Higher Education regulation that addresses the DL budget	x				

	III- Instructional support dimension:		A	F	D	O	S
8	Criteria of efficient development process for DL courses	DL equivalency to TL (courses' outcomes and content) are reviewed and verified by its related departments	√	√	√		
		Adequate freedom provided to faculty members to develop DL courses to coincide with their teaching styles	x	x	√		
		Active faculty members' involvement in developing DL courses and materials	x	x			
		Availability of training, assistants and time provided to faculty members to develop DL courses to coincide with their teaching styles	x	x			
		The use of technology that meets the courses' needs	√	x			x
		Consistency of the institutional standards applied in the development of the DL courses	√	x		x	x
9	Criteria of adequate provision of instructional delivery requirements	Availability of scheduled training courses on DL technological aspects for faculty members and students	x	x		x	x
		Adequate support to faculty members' activities related to DL methods and instruction	x	x	x		
		Adequate faculty members' response to student enquiries, assignments and test grading	x	x		x	x
		Adequate applied level of synchronous communication	x	x		x	x
		Clarity of the Ministry of Higher Education regulations that address DL regulations	x	x			
		Adequate cooperation between DL concerned departments and colleges and the Deanship of Distance Learning	x				
		Recognition of the Deanship of Distance Learning role	x	x			
		Recognition and adequate time provided for faculty members to engage in DL activities related to DL instructional methods	x	x			

	IV- Faculty support dimension:		A	F	D	O	S
10	Criteria of sufficient arrangements for faculty members' career development	Reward for faculty members' participation and innovation in the DL field	x	x	x		
		Faculty members' advancement criteria are related to their performance in the DL field	x	x	x		
		Availability of the Ministry of Higher Education regulations that address rewarding faculty members in the DL field	x				
		Inclusion of the DL budget in the University budget cycle	x				
		Recognition of the Deanship of Distance Learning role		x			

	V- Student support dimension:		A	F	D	O	S
11	Criteria of efficient enrolment procedures	Adequate fully online registration procedures are implemented	x	x		x	x
		Availability of training and information for new DL students about DL policies, guidelines and requirements	x	x		x	x
		Adequate cooperation between DL related colleges and departments	x		x		
		Consistency of DL regulation	x				
		Recognition of the Deanship of Distance Learning role	x	x	x		
12	Criteria of adequate accessibility to on-ground and online testing services for DL students	Adequate access to library (online/on-campus)	√		√	√	
		Adequate accessibility is provided to career and professional development	x			x	x
		Students' needs are recognised and responded to through collaboration between student service departments and DL service departments	x				x
		Adequate cooperation between DL concerned departments and colleges and the Deanship of Distance Learning	x		x		x
		Adequate online testing service	√	x		x	x

	VI- Evaluation and assessment dimension:		A	F	D	O	S
13	Criteria of efficient evaluation scheme for DL programmes	Regular evaluation for DL programmes' quality is conducted	√		√		
		Consistent with the TL evaluation scheme	x		x		
		Availability of students' feedback regarding DL faculty members' performance	x	x		x	x
		Adequacy of financial support provided	x				
		Availability of the Ministry of Higher Education regulations that address evaluation for DL	x				
		Efficient methods to seek feedback from DL recipients	√	x	x	x	x
14	Criteria of effective assessment for DL students	Adequate methods to assess students during the semester	√	x		x	x
		Variety types of questions are used to assess students' outcomes in the final examination.	√	√		√	√

Appendix 5

ADMINISTRATORS' INTERVIEW SCHEDULE

I. Institutional mission

The fundamental principles of an institutional mission are what set the bar for the level of quality at any DL institution, as its regulations and arrangements influence the other DL components. Please can you highlight what policies and procedures have been put in place to implement a quality DL provision and what barriers hinder them (if any), with regards to:

Financial aid (infrastructure, support)

Community needs (availability, scheduling, commitment and awareness of the needs, fees)

Marketing (promotion, requirements)

Value and Recognition (academic, accreditation, same traditional programmatic requirements, promotion)

Policies (supervision and implementation, consistency, collaboration)

II. Technology

Technology is an essential part of any DL institution as it defines the shape and capability of DL programmes to deliver its courses. Issues of accessibility and availability are always of concern. How does KAU ensure the provision of adequate technology that facilitates quality teaching and learning through technology, and what challenges does it face (if any)? With regards to:

Financial aid (integration)

Access (electronic resources)

Infrastructure (network, archiving, tools of delivery)

Technological Support (equipment, range of technology and time)

Manageability (IMS, tools and applications)

III. Instructional support

The effectiveness of the DL programmes is associated with the quality of the delivered curriculum and instruction. Please can you highlight the arrangements that have been made by DDL to ensure that a quality course will be delivered to its students via technology and the barriers that hinder them (if any), with regards to:

Course needs (technology usage, requirements for faculty and course development, DL aspects training)

Outcomes (compared to traditional, quality)

Communication (faculty awareness and cooperation, faculty-students)

IV. Faculty support

The amount of faculty support is a contributing factor to a successful DL provision. Please highlight arrangements that have been made by DDL to support faculty members to successfully perform their teaching mission through technology and barriers that face them (if any), with regards to:

Course development (methodology, software, freedom of teaching style, hardware)

Faculty development (advancement criteria, innovation)

V. Student support

Students are the main recipients of DL programmes; hence the whole educational approach is directed at them as they represent the real consumer of the DL institution at KAU. Please highlight the arrangements that are in place to ensure that students receive quality support that enables them to learn via technology, and possible challenges that face student support (if any), with regards to:

Enrolment (procedures, training, orientation, information)

Access (ground service, communication options, testing, course availability)

Value (opportunities)

Library (staff, access)

VI. Evaluation

To ensure sustainability and quality in DL, many aspects of DL ought to be evaluated and assessed regularly. Please can you highlight arrangements that are in place to evaluate DL in KAU for quality assurance and obstacles that stood in the way (if any), with regards to:

Assessments (consistency with campus, variety, anonymity, equivalency to other methods, quality of assessment methods)

Feedback (satisfaction, students-faculty, services)

Review (aspects of the DL courses, improvements)

Monitoring (attrition)

Appendix 6

FACULTY MEMBERS' INTERVIEW SCHEDULE

I. Institutional Mission

How do you perceive the effectiveness of the DDL role in serving its community and, from your point of view, what should be done to improve the DDL's services to its community with regards to:

Community needs (commitment and awareness of the needs)

Marketing (promotion, requirements)

Value and Recognition (academic, same traditional programmatic requirements, promotion)

Policies (consistency, collaboration)

II. Technology:

How do you perceive the quality of the technology provided by KAU to facilitate effective teaching and learning over technology and what should be done to improve it with regards to:

Access (electronic resources)

Infrastructure (network, archiving, tools of delivery)

Manageability (IMS, tools and applications)

Technological Support (equipment, range of technology and time)

III. Instructional support:

How do you see the procedures/processes that are implemented by KAU to ensure the quality of DL courses that are delivered at a distance and what should be done to improve it, with regards to:

Course needs (technology usage, requirements for faculty and course development, DL aspects training)

Outcomes (compared to traditional, quality)

Communication (faculty awareness and cooperation, faculty-students)

IV. Faculty support:

To what extent was KAU able to support faculty members to successfully perform their teaching mission via technology and what should be done to improve it, with regards to:

Course development (methodology, software, freedom of teaching style, hardware)

Faculty development (advancement criteria, innovation)

V. Student support:

To what extent was KAU able to support faculty members to successfully assess DL students via technology and what should be done to improve it, with regards to:

Access (communication options, testing, course availability)

VI. Evaluation

How do you perceive the evaluation processes/arrangements that are in place by KAU to ensure that quality courses will be delivered via technology and what should be done to improve them, with regards to:

Assessments (consistency with campus programmes, variety, equivalency to other methods, quality of assessment methods)

Feedback (satisfaction, students-faculty, services)

Review (aspects of the DL courses, improvements)

Monitoring (attrition)

Appendix 7

DELPHI SURVEY (SECOND ROUND)

Dear participant:

This is the second round of the Delphi survey that you kindly agreed to participate in. In this round you are given a chance to change your opinion (rating) with regards to the remaining survey items. According to the previous group rating (in the first round of the survey), 15 items have reached consensus agreement and seven items of the survey remain. In this round the group median (50% of the experts indicated their agreement or disagreement on the item) and the interquartile range (variation of the group responses from the middle score) are presented to help you decide which group you can alter your response/rate to, in order to reach consensus on the remaining items. Please kindly reflect on your response in the comment section before you make your decision in the second round. This is suggested by studies to enhance the Delphi survey iteration process and is helpful for the participants (in achieving consensus) and the researcher (in enriching his understanding).

.

Respondents' rating in the first round of the survey			
Items	**Your rating**	**Group Median** **2 or less = Agreement** **6 or above = Disagreement** (50% of the experts indicated their agreement or disagreement on the item)	**Group IQR** **1.5 or less = Acceptable** (variation of the group responses from the middle score)
3		**2**	**2**
5		**3**	**2**
8		**3**	**2.25**
10		**3.5**	**2.25**
11		**2.5**	**1.25**
16		**2.5**	**1.5**
21		**2.5**	**1**

Please rate the remaining items after reading the information above. You are encouraged to reflect on your previous response using the provided space for your reflection (i.e., reasons behind your rating):

Item 3…….....

…….....

Item 5…….....

…….....

Item 8……

…….....

Item 10…….....

…….....

Item 11…….....

…….....

Item 16…….....

…….....

Item 21…….....

…….....

No	Dimension	Solutions	Rate
3	**Institutional mission**	The introduction of regulations by the Ministry of Higher Education that communicate the importance and validity of DL certificates in the job market is necessary to attract more DL students and faculty members, which in turn enables the University to found more degrees.	
5	**Technology**	Sufficient authority should be devolved to the Deanship of Distance Learning to have control over DL departments and colleges in order to enforce and organise a collaborative effort of all the departments and colleges involved to overcome problems associated with the inadequacy of the provided accessibility to DL delivery requirements.	
8	**Technology**	The introduction of regulations by the Ministry of Higher Education that address the DL budget is needed to help DL universities in the country allocate their budgets meaningfully to take account of essential needs for DL, such as the establishment of a designated DL support centre.	
10	**Instructional support**	The designation of a course development department and the employment of the so-called "Saudization" plan sustain the consistency of the institutional standards applied in the development of the DL courses.	
11	**Instructional support**	The recognition of the Deanship of Distance Learning role and full responsibility for providing adequate training for DL students and faculty members help promote DL activities related to the use of DL applications (i.e., levels of synchronous communication, participation in course related forums etc.)	
16	**Student support**	The promotion of the Deanship of Distance Learning role (as the central authority for all DL regulations at the university) enforces cooperation between DL departments and colleges and entails more consistency in the DL regulations, which helps the Deanship of Distance Learning to unify the registration process for DL students.	
21	**Evaluation**	The introduction of clear regulations by the Ministry of Higher Education that address budgets provides administrators with the wherewithal to ensure an evaluation scheme that is parallel to the TL scheme in consistency, regularity and procedures.	

Appendix 8

DEMONSTRATION OF SOLUTIONS PROPOSED BY THE STUDY AND THEIR RELATED DIMENSIONS AND BARRIERS

No	I-Institutional mission dimension		
	Main barrier	**The underpinning barriers**	**Solutions proposed by the study**
1	Lack of sufficient authority	Inconsistency of the DL regulations	• The introduction of regulations by the Ministry of Higher Education that define the Deanship of Distance Learning role in Saudi universities is a necessity to solidify the Deanship of Distance Learning role as the legitimate centre for distance learning regulations in Saudi universities, in order to promote the consistency of distance learning regulation at the university and enforce cooperation between distance learning colleges and departments.
		Lack of cooperation between DL concerned departments, colleges and DDL	
		Ambiguity of MOHE regulations*	
		Vagueness of the DDL role	
2	Inadequate DL course scheduling and provision of the needed DL programmes/degrees	Inadequate DL degrees and programmes that meet the community needs	• The introduction of regulations by the Ministry of Higher Education that address the distance learning budget helps the Deanship of Distance Learning to receive a designated financial budget to improve the current implementation of distance learning marketing and course scheduling schemes. • The introduction of regulations by the Ministry of Higher Education that regulate a national marketing plan is necessary to attract more distance learning students and faculty members and enable the university to found more degrees.
		Shortage of registered students	
		Shortage of DL faculty members	
		Great scrutiny associated with acquiring the needed funds for DL	
		Inefficient course scheduling plan	
3	Inadequate marketing plan for DL	Insufficient arrangements to promote DL importance and communicate DL requirements and expectations	
		Lack of a national marketing plan	
4	Inadequate equivalency to TL	Lack of recognition and accreditation of DL certificates	• The introduction of regulations by the Ministry of Higher Education that communicate the importance and validity of distance learning certificates in the job market is necessary to attract more distance learning students and faculty members, which in turn enables the university to found more degrees.
		Lack of communication and coordination between the MOHE and the MOCS	

No	II- Technology Dimension		
	Main barrier	**The underpinning barriers**	**Solutions proposed by the study**
5	Inadequate accessibility to DL delivery requirements	Absence of integration between DL applications	• Sufficient authority should be devolved to the Deanship of Distance Learning to have control over distance learning departments and colleges in order to enforce and organise a collaborative effort of all the departments and colleges involved to overcome problems associated with the inadequacy of the provided accessibility to distance learning delivery requirements. • The introduction of regulations by the Ministry of Higher Education that encourage regional college relationships helps to provide more accessibility to a variety of electronic reserves across all Saudi universities.
		Inaccessibility to a variety of electronic reserves through university partnership	
		Vagueness of the DDL role	
		Lack of regulations that encourage regional college relationships	
		Inadequate accessibility and manageability of the used DL application	
		Inadequate provision of synchronous communication	
		Lack of cooperation between DL concerned department and colleges and DDL	
6	Insufficient technological infrastructure	Inefficient plans to fund and organise the course development and restoration process	• The establishment of designated course development departments and the employment of the so-called Saudization plan present cost-effective solutions that help organise the course development and restoration process at Saudi universities.
		The high dependability on outsourcing companies	
7	Inefficient technical support	Inadequate training provided for personnel in the support centre	• The introduction of regulations by the Ministry Of Higher Education that address the distance learning budget is needed to help distance learning universities in the country allocate their budgets meaningfully to take account of essential needs for distance learning, such as the establishment of a designated distance learning technical support centre.
		Inadequate provision of technical support times and communication options for DL recipients	
		Failure to include DL budget in the University budget cycle	
		Lack of a designated technical support centre	
		Lack of MOHE regulations that address the DL budget	

No	III-Instructional support dimension		
	Main barrier	**The underpinning barriers**	**Solutions proposed by the study**
8	Inefficient development process for DL courses	Lack of freedom provided to faculty members to develop DL courses to coincide with their teaching styles	• The active engagement of faculty members in the development process for distance learning courses that entails the provision of training, assistants, and time for them to design and use the technology that meet the courses' needs. • The introduction of regulations by the Ministry of Higher Education that communicate recognition and provision of time for faculty members to engage in distance learning activities related to distance learning instructional methods contributes to encouraging faculty members to respond in a timely manner to distance learning students and engage in distance learning related activities. • The designation of a course development department and the employment of the so called "Saudization" plan sustain the consistency of the institutional standards applied in the development of the distance learning courses. • The recognition of the Deanship of Distance Learning role and full responsibility for providing scheduled training for distance learning students and faculty members helps promote distance learning activities related to the use of distance learning applications (i.e., levels of synchronous communication, participation in course related forums etc.)
		Absence of faculty members' involvement in developing DL courses and materials	
		Lack of training, assistants and time provided to faculty members to develop DL courses to coincide with their teaching styles	
		Inability to use the technology that meet the courses' needs	
		Inconsistency of the institutional standards applied in the development of the DL course	
9	Insufficient provision of instructional delivery requirements	Lack of scheduled training courses for DL technological aspects for faculty members and students	
		Lack of support to faculty members' activities related to DL methods and instruction	
		Inadequate faculty members' response to student enquiries, assignments and test grading	
		Inadequate applied level of synchronous communication	
		Ambiguity of MOHE regulations	
		Lack of cooperation between DL concerned departments, colleges and DDL	
		Vagueness of the DDL role	
		Lack of recognition and limited time available for faculty members to engage in DL activities related to DL instructional methods	

No	IV-Faculty support dimension		
	Main barrier	**The underpinning barriers**	**Solutions proposed by the study**
10	Insufficient arrangements for DL faculty members' career development	Absence of reward for faculty members' participation or innovation in the DL field Faculty members' advancement criteria are not related to their performance in the DL field Lack of MOHE regulations that address rewarding faculty members in the DL field Absence of the DL budget in the university budget cycle Vagueness of the DDL role	• The promotion of the Deanship of Distance Learning role (as the central authority for all distance learning regulations at the University) promotes the Deanship of Distance Learning's ability to reward faculty members for their participation, innovation and performance in the distance learning field. • The introduction of clear regulations by the Ministry of Higher Education that address distance learning faculty members' rewards promotes the Deanship of Distance Learning's ability to reward faculty members (career-wise) for their participation, innovation and performance in the distance learning field. • The introduction of regulations by the Ministry of Higher Education that address the distance learning budget promotes the Deanship of Distance Learning's ability to financially reward faculty members for their participation, innovation and performance in the distance learning field.

No	V-Student support dimension		
	Main barrier	**The underpinning barriers**	**Solutions proposed by the study**
11	Inefficient student enrolment procedures	Adequate fully online registration procedures are not implemented Lack of training and information for new DL students about DL policies, guidelines and requirements Lack of cooperation between DL related colleges and departments Inconsistency of DL regulations Vagueness of the DDL role	• The promotion of the Deanship of Distance Learning role (as the central authority for all distance learning regulations at the University) enforces cooperation between distance learning departments and colleges and entails more consistency in the distance learning regulations and the information provided, which helps the Deanship of Distance Learning to unify the registration process for distance learning students.
12	Inadequate accessibility to on-ground and online testing services for DL students	Inadequate accessibility is provided for career and professional development	• The promotion of the Deanship of Distance Learning's role (as the central authority for all distance learning regulations at the University) enforces cooperation between distance learning departments and colleges and entails more consistency in the distance learning regulations, which helps the Deanship of Distance

			Learning to oblige distance learning colleges to communicate any activities related to students' career and professional development to the Deanship of Distance Learning, in order to be able to disseminate such activities to distance learning students in the concerned colleges.
		Lack of recognition and response to students' needs through student services departments	• The promotion of the Deanship of Distance Learning role (as the central authority for all distance learning regulations at the University) enforces cooperation between distance learning departments and improves recognition and response to students' needs through student services departments.
		Lack of cooperation between DL concerned departments, colleges and DDL	• Online testing services as part of the Deanship of Distance Learning ought to benefit from enforcing cooperation between distance learning departments and colleges and the Deanship of Distance Learning by opening a controlled channel that allows online products (including online testing) to be enhanced, based on collaborative efforts between distance learning technological departments and distance learning colleges and service departments.
		Inadequate online testing service	

No	VI-Evaluation dimension		
	Main barrier	**The underpinning barriers**	**Solutions proposed by the study**
13	Inefficient evaluation scheme for DL programmes	Inconsistent with the TL evaluation scheme	• The introduction of clear regulations by the Ministry of Higher Education that address the distance learning evaluation scheme provides administrators with the wherewithal to ensure an evaluation scheme that is parallel to the TL scheme in consistency, regularity and procedures. • The introduction of clear regulations by the Ministry of Higher Education that address the distance learning budget provides administrators with the wherewithal to ensure an evaluation scheme that is parallel to the TL scheme in consistency, regularity and procedures.
		Lack of students' feedback regarding DL faculty members' performance	
		Financial limitations	
		Lack of MOHE regulations that address evaluation for DL	
		Inefficient methods to seek feedback from DL recipients	
14	Ineffective assessment for DL students	Inadequate methods to assess students during the semester	• The active engagement of faculty members in the development process of designing the assessment methods and courses for their distance learning classes contributes to the construction of effective assessment tools for distance learning students' outcomes.

*Text in red represents the local barriers discovered by the study to influence negatively the implementation of quality DL

Appendix 9
SPSS output

I. STUDENT QUESTIONNAIRE RELIABILITY (CRONBACH'S ALPHA FOR SCALES' INTERNAL CONSISTENCY)

Scale B: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	482	100.0
	Excluded[a]	0	.0
	Total	482	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.937	17

Scale C: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	482	100.0
	Excluded[a]	0	.0
	Total	482	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.853	16

Scale D: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	482	100.0
	Excluded[a]	0	.0
	Total	482	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.776	8

Scale E: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	482	100.0
	Excluded[a]	0	.0
	Total	482	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.950	10

Scale F: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	482	100.0
	Excluded[a]	0	.0
	Total	482	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.747	8

II. STUDENTS QUESTIONNAIRE FREQUENCY TABLES

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
Gender	482	1	2	727	1.51	.500
College	482	1	4	1228	2.55	.979
Age	482	1	3	752	1.56	.596
Education Level	482	1	4	614	1.27	.516
Experience in DL	482	1	3	1239	2.57	.581
Valid N (listwise)	482					

Frequencies

Statistics

		Gender	College	Age	Education Level	Experience in DL
N	Valid	482	482	482	482	482
	Missing	0	0	0	0	0

Frequency Table

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	237	49.2	49.2	49.2
	female	245	50.8	50.8	100.0
	Total	482	100.0	100.0	

College

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	College of Economics and Administration	96	19.9	19.9	19.9
	College of Art and Humanities	101	21.0	21.0	40.9
	Rabigh College of Business	210	43.6	43.6	84.4
	Program of Graduate Studies	75	15.6	15.6	100.0
	Total	482	100.0	100.0	

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-30	238	49.4	49.4	49.4
	31-45	218	45.2	45.2	94.6
	More than 45	26	5.4	5.4	100.0
	Total	482	100.0	100.0	

Education Level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Secondary	363	75.3	75.3	75.3
	bachelor	109	22.6	22.6	97.9
	Master	7	1.5	1.5	99.4
	PhD	3	.6	.6	100.0
	Total	482	100.0	100.0	

Experience in DL

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No experience	22	4.6	4.6	4.6
	One semester-One year	163	33.8	33.8	38.4
	More than one year	297	61.6	61.6	100.0
	Total	482	100.0	100.0	

III- STUDENTS QUESTIONNAIRE: CHI-SQUARE TEST (GOODNESS-OF-FIT) FOR ALL ITEMS

Chi-Square Test

Frequencies

B_1

	Observed N	Expected N	Residual
Strongly Disagree	71	96.4	-25.4
Disagree	188	96.4	91.6
Not Sure	88	96.4	-8.4
Agree	72	96.4	-24.4
Strongly Agree	63	96.4	-33.4
Total	482		

B_2

	Observed N	Expected N	Residual
Strongly Disagree	71	96.4	-25.4
Disagree	182	96.4	85.6
Not Sure	91	96.4	-5.4
Agree	71	96.4	-25.4
Strongly Agree	67	96.4	-29.4
Total	482		

B_3

	Observed N	Expected N	Residual
Strongly Disagree	170	96.4	73.6
Disagree	85	96.4	-11.4
Not Sure	91	96.4	-5.4
Agree	73	96.4	-23.4
Strongly Agree	63	96.4	-33.4
Total	482		

B_4

	Observed N	Expected N	Residual
Strongly Disagree	92	96.4	-4.4
Disagree	156	96.4	59.6
Not Sure	86	96.4	-10.4
Agree	83	96.4	-13.4
Strongly Agree	65	96.4	-31.4
Total	482		

B_5

	Observed N	Expected N	Residual
Strongly Disagree	171	96.4	74.6
Disagree	83	96.4	-13.4
Not Sure	94	96.4	-2.4
Agree	72	96.4	-24.4
Strongly Agree	62	96.4	-34.4
Total	482		

B_6.1

	Observed N	Expected N	Residual
Strongly Disagree	92	96.4	-4.4
Disagree	168	96.4	71.6
Not Sure	98	96.4	1.6
Agree	55	96.4	-41.4
Strongly Agree	69	96.4	-27.4
Total	482		

B_6.2

	Observed N	Expected N	Residual
Strongly Disagree	88	96.4	-8.4
Disagree	114	96.4	17.6
Not Sure	111	96.4	14.6
Agree	87	96.4	-9.4
Strongly Agree	82	96.4	-14.4
Total	482		

B_6.3

	Observed N	Expected N	Residual
Strongly Disagree	166	96.4	69.6
Disagree	85	96.4	-11.4
Not Sure	96	96.4	-.4
Agree	75	96.4	-21.4
Strongly Agree	60	96.4	-36.4
Total	482		

B_6.4

	Observed N	Expected N	Residual
Strongly Disagree	147	96.4	50.6
Disagree	97	96.4	.6
Not Sure	96	96.4	-.4
Agree	79	96.4	-17.4
Strongly Agree	63	96.4	-33.4
Total	482		

B_6.5

	Observed N	Expected N	Residual
Strongly Disagree	86	96.4	-10.4
Disagree	116	96.4	19.6
Not Sure	102	96.4	5.6
Agree	92	96.4	-4.4
Strongly Agree	86	96.4	-10.4
Total	482		

B_7

	Observed N	Expected N	Residual
No	293	241.0	52.0
Yes	189	241.0	-52.0
Total	482		

B_8

	Observed N	Expected N	Residual
Strongly Disagree	95	96.4	-1.4
Disagree	140	96.4	43.6
Not Sure	99	96.4	2.6
Agree	77	96.4	-19.4
Strongly Agree	71	96.4	-25.4
Total	482		

B_9.1

	Observed N	Expected N	Residual
No	296	241.0	55.0
Yes	186	241.0	-55.0
Total	482		

B_9.2

	Observed N	Expected N	Residual
No	283	241.0	42.0
Yes	199	241.0	-42.0
Total	482		

B_10.1

	Observed N	Expected N	Residual
No	249	241.0	8.0
Yes	233	241.0	-8.0
Total	482		

B_10.2

	Observed N	Expected N	Residual
No	183	241.0	-58.0
Yes	299	241.0	58.0
Total	482		

B_10.3

	Observed N	Expected N	Residual
No	246	241.0	5.0
Yes	236	241.0	-5.0
Total	482		

C_11

	Observed N	Expected N	Residual
Strongly Disagree	94	96.4	-2.4
Disagree	132	96.4	35.6
Not Sure	96	96.4	-.4
Agree	88	96.4	-8.4
Strongly Agree	72	96.4	-24.4
Total	482		

C_12

	Observed N	Expected N	Residual
Strongly Disagree	94	96.4	-2.4
Disagree	101	96.4	4.6
Not Sure	108	96.4	11.6
Agree	97	96.4	.6
Strongly Agree	82	96.4	-14.4
Total	482		

C_13

	Observed N	Expected N	Residual
No	291	241.0	50.0
Yes	191	241.0	-50.0
Total	482		

C_14.1

	Observed N	Expected N	Residual
No	248	241.0	7.0
Yes	234	241.0	-7.0
Total	482		

C_14.2

	Observed N	Expected N	Residual
No	303	241.0	62.0
Yes	179	241.0	-62.0
Total	482		

C_14.3

	Observed N	Expected N	Residual
No	305	241.0	64.0
Yes	177	241.0	-64.0
Total	482		

C_15.1

	Observed N	Expected N	Residual
Strongly Disagree	100	96.4	3.6
Disagree	125	96.4	28.6
Not Sure	96	96.4	-.4
Agree	90	96.4	-6.4
Strongly Agree	71	96.4	-25.4
Total	482		

C_15.2

	Observed N	Expected N	Residual
Strongly Disagree	95	96.4	-1.4
Disagree	96	96.4	-.4
Not Sure	104	96.4	7.6
Agree	101	96.4	4.6
Strongly Agree	86	96.4	-10.4
Total	482		

C_16

	Observed N	Expected N	Residual
No	250	241.0	9.0
Yes	232	241.0	-9.0
Total	482		

C_17

	Observed N	Expected N	Residual
No	275	241.0	34.0
Yes	207	241.0	-34.0
Total	482		

C_18

	Observed N	Expected N	Residual
Strongly Disagree	70	96.4	-26.4
Disagree	89	96.4	-7.4
Not Sure	88	96.4	-8.4
Agree	160	96.4	63.6
Strongly Agree	75	96.4	-21.4
Total	482		

C_19

	Observed N	Expected N	Residual
Strongly Disagree	109	96.4	12.6
Disagree	143	96.4	46.6
Not Sure	93	96.4	-3.4
Agree	67	96.4	-29.4
Strongly Agree	70	96.4	-26.4
Total	482		

C_20

	Observed N	Expected N	Residual
Strongly Disagree	104	96.4	7.6
Disagree	110	96.4	13.6
Not Sure	79	96.4	-17.4
Agree	89	96.4	-7.4
Strongly Agree	100	96.4	3.6
Total	482		

C_21

	Observed N	Expected N	Residual
Strongly Disagree	103	96.4	6.6
Disagree	132	96.4	35.6
Not Sure	90	96.4	-6.4
Agree	86	96.4	-10.4
Strongly Agree	71	96.4	-25.4
Total	482		

C_22

	Observed N	Expected N	Residual
Strongly Disagree	98	96.4	1.6
Disagree	130	96.4	33.6
Not Sure	103	96.4	6.6
Agree	86	96.4	-10.4
Strongly Agree	65	96.4	-31.4
Total	482		

C_23

	Observed N	Expected N	Residual
No	264	241.0	23.0
Yes	218	241.0	-23.0
Total	482		

D_24

	Observed N	Expected N	Residual
Strongly Disagree	81	96.4	-15.4
Disagree	165	96.4	68.6
Not Sure	85	96.4	-11.4
Agree	87	96.4	-9.4
Strongly Agree	64	96.4	-32.4
Total	482		

D_25.1

	Observed N	Expected N	Residual
No	245	241.0	4.0
Yes	237	241.0	-4.0
Total	482		

D_25.2

	Observed N	Expected N	Residual
No	289	241.0	48.0
Yes	193	241.0	-48.0
Total	482		

D_26.1

	Observed N	Expected N	Residual
Strongly Disagree	79	96.4	-17.4
Disagree	178	96.4	81.6
Not Sure	86	96.4	-10.4
Agree	83	96.4	-13.4
Strongly Agree	56	96.4	-40.4
Total	482		

D_26.2

	Observed N	Expected N	Residual
Strongly Disagree	84	96.4	-12.4
Disagree	161	96.4	64.6
Not Sure	86	96.4	-10.4
Agree	87	96.4	-9.4
Strongly Agree	64	96.4	-32.4
Total	482		

D_26.3

	Observed N	Expected N	Residual
Strongly Disagree	85	96.4	-11.4
Disagree	99	96.4	2.6
Not Sure	111	96.4	14.6
Agree	102	96.4	5.6
Strongly Agree	85	96.4	-11.4
Total	482		

D_27

	Observed N	Expected N	Residual
No	294	241.0	53.0
Yes	188	241.0	-53.0
Total	482		

D_28

	Observed N	Expected N	Residual
Strongly Disagree	143	96.4	46.6
Disagree	100	96.4	3.6
Not Sure	95	96.4	-1.4
Agree	80	96.4	-16.4
Strongly Agree	64	96.4	-32.4
Total	482		

E_29

	Observed N	Expected N	Residual
No	267	241.0	26.0
Yes	215	241.0	-26.0
Total	482		

E_30

	Observed N	Expected N	Residual
Strongly Disagree	131	96.4	34.6
Disagree	111	96.4	14.6
Not Sure	94	96.4	-2.4
Agree	84	96.4	-12.4
Strongly Agree	62	96.4	-34.4
Total	482		

E_31

	Observed N	Expected N	Residual
Strongly Disagree	109	96.4	12.6
Disagree	144	96.4	47.6
Not Sure	84	96.4	-12.4
Agree	84	96.4	-12.4
Strongly Agree	61	96.4	-35.4
Total	482		

E_32

	Observed N	Expected N	Residual
Strongly Disagree	59	96.4	-37.4
Disagree	85	96.4	-11.4
Not Sure	58	96.4	-38.4
Agree	182	96.4	85.6
Strongly Agree	98	96.4	1.6
Total	482		

E_33

	Observed N	Expected N	Residual
Strongly Disagree	52	96.4	-44.4
Disagree	70	96.4	-26.4
Not Sure	265	96.4	168.6
Agree	66	96.4	-30.4
Strongly Agree	29	96.4	-67.4
Total	482		

E_34

	Observed N	Expected N	Residual
Strongly Disagree	105	96.4	8.6
Disagree	139	96.4	42.6
Not Sure	91	96.4	-5.4
Agree	87	96.4	-9.4
Strongly Agree	60	96.4	-36.4
Total	482		

E_35

	Observed N	Expected N	Residual
Strongly Disagree	125	96.4	28.6
Disagree	145	96.4	48.6
Not Sure	77	96.4	-19.4
Agree	78	96.4	-18.4
Strongly Agree	57	96.4	-39.4
Total	482		

E_36

	Observed N	Expected N	Residual
Strongly Disagree	112	96.4	15.6
Disagree	153	96.4	56.6
Not Sure	80	96.4	-16.4
Agree	79	96.4	-17.4
Strongly Agree	58	96.4	-38.4
Total	482		

E_37

	Observed N	Expected N	Residual
Strongly Disagree	117	96.4	20.6
Disagree	158	96.4	61.6
Not Sure	79	96.4	-17.4
Agree	73	96.4	-23.4
Strongly Agree	55	96.4	-41.4
Total	482		

E_38

	Observed N	Expected N	Residual
Strongly Disagree	119	96.4	22.6
Disagree	160	96.4	63.6
Not Sure	76	96.4	-20.4
Agree	72	96.4	-24.4
Strongly Agree	55	96.4	-41.4
Total	482		

F_39

	Observed N	Expected N	Residual
Strongly Disagree	99	96.4	2.6
Disagree	151	96.4	54.6
Not Sure	96	96.4	-.4
Agree	71	96.4	-25.4
Strongly Agree	65	96.4	-31.4
Total	482		

F_40.1

	Observed N	Expected N	Residual
No	344	241.0	103.0
Yes	138	241.0	-103.0
Total	482		

F_40.2

	Observed N	Expected N	Residual
No	262	241.0	21.0
Yes	220	241.0	-21.0
Total	482		

F_40.3

	Observed N	Expected N	Residual
No	260	241.0	19.0
Yes	222	241.0	-19.0
Total	482		

F_40.4

	Observed N	Expected N	Residual
No	310	241.0	69.0
Yes	172	241.0	-69.0
Total	482		

F_40.5

	Observed N	Expected N	Residual
No	302	241.0	61.0
Yes	180	241.0	-61.0
Total	482		

F_41

	Observed N	Expected N	Residual
No	305	241.0	64.0
Yes	177	241.0	-64.0
Total	482		

F_42

	Observed N	Expected N	Residual
No	385	241.0	144.0
Yes	97	241.0	-144.0
Total	482		

Test Statistics

	B_1	B_2	B_3	B_4	B_5	B_6.1	B_6.2
Chi-Square	112.212[a]	98.664[a]	75.095[a]	50.261[a]	78.104[a]	78.975[a]	9.224[a]
df	4	4	4	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000	.000	.000	.056

Test Statistics

	B_6.3	B_6.4	B_6.5	B_7	B_8	B_9.1	B_9.2
Chi-Square	70.095[a]	41.278[a]	6.755[a]	22.440[a]	30.407[a]	25.104[a]	14.639[a]
df	4	4	4	1	4	1	1
Asymp. Sig.	.000	.000	.149	.000	.000	.000	.000

Test Statistics

	B_10.1	B_10.2	B_10.3	C_11	C_12	C_13	C_14.1
Chi-Square	.531[a]	27.917[a]	.207[a]	20.116[a]	3.830[a]	20.747[a]	.407[a]
df	1	1	1	4	4	1	1
Asymp. Sig.	.466	.000	.649	.000	.430	.000	.524

Test Statistics

	C_14.2	C_14.3	C_15.1	C_15.2	C_16	C_17	C_18
Chi-Square	31.900[a]	33.992[a]	15.739[a]	1.963[a]	.672[a]	9.593[a]	55.241[a]
df	1	1	4	4	1	1	4
Asymp. Sig.	.000	.000	.003	.743	.412	.002	.000

Test Statistics

	C_19	C_20	C_21	C_22	C_23	D_24	D_25.1
Chi-Square	40.490[a]	6.361[a]	21.838[a]	23.539[a]	4.390[a]	64.432[a]	.133[a]
df	4	4	4	4	1	4	1
Asymp. Sig.	.000	.174	.000	.000	.036	.000	.716

Test Statistics

	D_25.2	D_26.1	D_26.2	D_26.3	D_27	D_28	E_29
Chi-Square	19.120[a]	92.129[a]	57.813[a]	5.303[a]	23.311[a]	36.361[a]	5.610[a]
df	1	4	4	4	1	4	1
Asymp. Sig.	.000	.000	.000	.258	.000	.000	.018

Test Statistics

	E_30	E_31	E_32	E_33	E_34	E_35	E_36
Chi-Square	28.560[a]	41.340[a]	107.191[a]	379.266[a]	34.556[a]	56.506[a]	56.983[a]
df	4	4	4	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000	.000	.000	.000

Test Statistics

	E_37	E_38	F_39	F_40.1	F_40.2	F_40.3	F_40.4
Chi-Square	70.365[a]	75.531[a]	47.917[a]	88.041[a]	3.660[a]	2.996[a]	39.510[a]
df	4	4	4	1	1	1	1
Asymp. Sig.	.000	.000	.000	.000	.056	.083	.000

Test Statistics

	F_40.5	F_41	F_42
Chi-Square	30.880[a]	33.992[a]	172.083[a]
df	1	1	1
Asymp. Sig.	.000	.000	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 96.4.

b. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 241.0.

IV- STUDENTS QUESTIONNAIRE: CHI-SQUARE TEST OF INDEPENDENCE (ITEMS WITH SIGNIFICANT ASSOCIATION)

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
College * B_1	482	100.0%	0	0.0%	482	100.0%

College * B_1 Crosstabulation

			B_1		
			Strongly Disagree	Disagree	Not Sure
College	College of Economics and Administration	Count	18	25	20
		Std. Residual	1.0	-2.0	.6
	College of Art and Humanities	Count	16	32	20
		Std. Residual	.3	-1.2	.4
	Rabigh College of Business	Count	27	102	29
		Std. Residual	-.7	2.2	-1.5
	Program of Graduate Studies	Count	10	29	19
		Std. Residual	-.3	.0	1.4
Total		Count	71	188	88

College * B_1 Crosstabulation

			B_1		Total
			Agree	Strongly Agree	
College	College of Economics and Administration	Count	17	16	96
		Std. Residual	.7	1.0	
	College of Art and Humanities	Count	19	14	101
		Std. Residual	1.0	.2	
	Rabigh College of Business	Count	28	24	210
		Std. Residual	-.6	-.7	
	Program of Graduate Studies	Count	8	9	75
		Std. Residual	-1.0	-.3	
Total		Count	72	63	482

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.287[a]	12	.046
Likelihood Ratio	21.439	12	.044
Linear-by-Linear Association	2.386	1	.122
N of Valid Cases	482		

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender * B_4	482	100.0%	0	0.0%	482	100.0%

Gender * B_4 Crosstabulation

			B_4			
			Strongly Disagree	Disagree	Not Sure	Agree
Gender	male	Count	51	57	53	41
		Std. Residual	.9	-2.2	1.6	.0
	female	Count	41	99	33	42
		Std. Residual	-.8	2.2	-1.6	.0
Total		Count	92	156	86	83

Gender * B_4 Crosstabulation

			B_4	Total
			Strongly Agree	
Gender	male	Count	35	237
		Std. Residual	.5	
	female	Count	30	245
		Std. Residual	-.5	
Total		Count	65	482

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.314[a]	4	.002
Likelihood Ratio	17.496	4	.002
Linear-by-Linear Association	1.000	1	.317
N of Valid Cases	482		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 31.96.

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender * C_20	482	100.0%	0	0.0%	482	100.0%

Gender * C_20 Crosstabulation

			C_20			
			Strongly Disagree	Disagree	Not Sure	Agree
Gender	male	Count	41	46	46	48
		Std. Residual	-1.4	-1.1	1.1	.6
	female	Count	63	64	33	41
		Std. Residual	1.4	1.1	-1.1	-.6
Total		Count	104	110	79	89

Gender * C_20 Crosstabulation

			C_20	Total
			Strongly Agree	
Gender	male	Count	56	237
		Std. Residual	1.0	
	female	Count	44	245
		Std. Residual	-1.0	
Total		Count	100	482

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.600[a]	4	.021
Likelihood Ratio	11.659	4	.020
Linear-by-Linear Association	8.433	1	.004
N of Valid Cases	482		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 38.84.

Crosstabs

case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender * C_21	482	100.0%	0	0.0%	482	100.0%

Gender * C_21 Crosstabulation

			C_21			
			Strongly Disagree	Disagree	Not Sure	Agree
Gender	male	Count	51	52	55	43
		Std. Residual	.0	-1.6	1.6	.1
	female	Count	52	80	35	43
		Std. Residual	.0	1.6	-1.6	-.1
Total		Count	103	132	90	86

Gender * C_21 Crosstabulation

			C_21	Total
			Strongly Agree	
Gender	male	Count	36	237
		Std. Residual	.2	
	female	Count	35	245
		Std. Residual	-.2	
Total		Count	71	482

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.278[a]	4	.036
Likelihood Ratio	10.358	4	.035
Linear-by-Linear Association	1.022	1	.312
N of Valid Cases	482		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 34.91.

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender * C_23	482	100.0%	0	0.0%	482	100.0%

Gender * C_23 Crosstabulation

			C_23		Total
			No	Yes	
Gender	male	Count	107	130	237
		Std. Residual	-2.0	2.2	
	female	Count	157	88	245
		Std. Residual	2.0	-2.2	
Total		Count	264	218	482

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	17.433[a]	1	.000		
Continuity Correction[b]	16.678	1	.000		
Likelihood Ratio	17.537	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	17.397	1	.000		
N of Valid Cases	482				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 107.19.
b. Computed only for a 2x2 table

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
College * D_26.1	482	100.0%	0	0.0%	482	100.0%

College * D_26.1 Crosstabulation

			D_26.1		
			Strongly Disagree	Disagree	Not Sure
College	College of Economics and Administration	Count	19	24	22
		Std. Residual	.8	-1.9	1.2
	College of Art and Humanities	Count	21	30	16
		Std. Residual	1.1	-1.2	-.5
	Rabigh College of Business	Count	30	100	31
		Std. Residual	-.8	2.5	-1.1
	Program of Graduate Studies	Count	9	24	17
		Std. Residual	-.9	-.7	1.0
Total		Count	79	178	86

College * D_26.1 Crosstabulation

			D_26.1		Total
			Agree	Strongly Agree	
College	College of Economics and Administration	Count	17	14	96
		Std. Residual	.1	.9	
	College of Art and Humanities	Count	24	10	101
		Std. Residual	1.6	-.5	
	Rabigh College of Business	Count	30	19	210
		Std. Residual	-1.0	-1.1	
	Program of Graduate Studies	Count	12	13	75
		Std. Residual	-.3	1.5	
Total		Count	83	56	482

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.072[a]	12	.008
Likelihood Ratio	26.571	12	.009
Linear-by-Linear Association	.046	1	.831
N of Valid Cases	482		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.71.

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Age * E_35	482	100.0%	0	0.0%	482	100.0%

Age * E_35 Crosstabulation

			E_35			
			Strongly Disagree	Disagree	Not Sure	Agree
Age	18-30	Count	55	82	35	42
		Std. Residual	-.9	1.2	-.5	.6
	31-45	Count	56	56	40	34
		Std. Residual	-.1	-1.2	.9	-.2
	More than 45	Count	14	7	2	2
		Std. Residual	2.8	-.3	-1.1	-1.1
Total		Count	125	145	77	78

Age * E_35 Crosstabulation

			E_35	Total
			Strongly Agree	
Age	18-30	Count	24	238
		Std. Residual	-.8	
	31-45	Count	32	218
		Std. Residual	1.2	
	More than 45	Count	1	26
		Std. Residual	-1.2	
Total		Count	57	482

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Monte Carlo Sig. (2-sided)	
				Sig.	95% Confidence Interval
					Lower Bound
Pearson Chi-Square	18.702[a]	8	.017	.021[b]	.008
Likelihood Ratio	17.809	8	.023	.025[b]	.011
Fisher's Exact Test	16.233			.031[b]	.016
Linear-by-Linear Association	1.088[c]	1	.297	.297[b]	.256
N of Valid Cases	482				

Chi-Square Tests

	Monte Carlo Sig. (2-sided)	Monte Carlo Sig. (1-sided)		
	95% Confidence Interval	Sig.	95% Confidence Interval	
	Upper Bound		Lower Bound	Upper Bound
Pearson Chi-Square	.033[a]			
Likelihood Ratio	.039			
Fisher's Exact Test	.047			
Linear-by-Linear Association	.337[c]	.178	.144	.213[b]
N of Valid Cases				

a. 3 cells (20.0%) have expected count less than 5. The minimum expected count is 3.07.
b. Based on 482 sampled tables with starting seed 1993510611.
c. The standardized statistic is -1.043.

Crosstabs

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gender * F_41	482	100.0%	0	0.0%	482	100.0%

Gender * F_41 Crosstabulation

			F_41		Total
			No	Yes	
Gender	male	Count	124	113	237
		Std. Residual	-2.1	2.8	
	female	Count	181	64	245
		Std. Residual	2.1	-2.7	
Total		Count	305	177	482

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	24.091[a]	1	.000		
Continuity Correction[b]	23.173	1	.000		
Likelihood Ratio	24.326	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	24.041	1	.000		
N of Valid Cases	482				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 87.03.
b. Computed only for a 2x2 table

Nonparametric Correlations

Correlations

			B_2	C_11
Spearman's rho	B_2	Correlation Coefficient	1.000	.674**
		Sig. (2-tailed)	.	.000
		N	482	482
	C_11	Correlation Coefficient	.674**	1.000
		Sig. (2-tailed)	.000	.
		N	482	482

**. Correlation is significant at the 0.01 level (2-tailed).

Nonparametric Correlations

Correlations

			B_3	C_11
Spearman's rho	B_3	Correlation Coefficient	1.000	.617**
		Sig. (2-tailed)	.	.000
		N	482	482
	C_11	Correlation Coefficient	.617**	1.000
		Sig. (2-tailed)	.000	.
		N	482	482

**. Correlation is significant at the 0.01 level (2-tailed).

Nonparametric Correlations

Correlations

			B_2	C_15.1
Spearman's rho	B_2	Correlation Coefficient	1.000	.572**
		Sig. (2-tailed)	.	.000
		N	482	482
	C_15.1	Correlation Coefficient	.572**	1.000
		Sig. (2-tailed)	.000	.
		N	482	482

**. Correlation is significant at the 0.01 level (2-tailed).

Nonparametric Correlations

Correlations

			B_2	D_28
Spearman's rho	B_2	Correlation Coefficient	1.000	.716**
		Sig. (2-tailed)	.	.000
		N	482	482
	D_28	Correlation Coefficient	.716**	1.000
		Sig. (2-tailed)	.000	.
		N	482	482

**. Correlation is significant at the 0.01 level (2-tailed).

Nonparametric Correlations

Correlations

			B_3	E_34
Spearman's rho	B_3	Correlation Coefficient	1.000	.513**
		Sig. (2-tailed)	.	.000
		N	482	482
	E_34	Correlation Coefficient	.513**	1.000
		Sig. (2-tailed)	.000	.
		N	482	482

**. Correlation is significant at the 0.01 level (2-tailed).

Nonparametric Correlations

Correlations

			B_3	E_36
Spearman's rho	B_3	Correlation Coefficient	1.000	.558**
		Sig. (2-tailed)	.	.000
		N	482	482
	E_36	Correlation Coefficient	.558**	1.000
		Sig. (2-tailed)	.000	.
		N	482	482

**. Correlation is significant at the 0.01 level (2-tailed).

Nonparametric Correlations

Correlations

			B_3	E_37
Spearman's rho	B_3	Correlation Coefficient	1.000	.522**
		Sig. (2-tailed)	.	.000
		N	482	482
	E_37	Correlation Coefficient	.522**	1.000
		Sig. (2-tailed)	.000	.
		N	482	482

**. Correlation is significant at the 0.01 level (2-tailed).

Nonparametric Correlations

Correlations

			B_3	E_38
Spearman's rho	B_3	Correlation Coefficient	1.000	.505**
		Sig. (2-tailed)	.	.000
		N	482	482
	E_38	Correlation Coefficient	.505**	1.000
		Sig. (2-tailed)	.000	.
		N	482	482

**. Correlation is significant at the 0.01 level (2-tailed).

VI- DELPHI I OUTPUT

Explore

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
1	10	100.0%	0	0.0%	10	100.0%
2	10	100.0%	0	0.0%	10	100.0%
3	10	100.0%	0	0.0%	10	100.0%
4	10	100.0%	0	0.0%	10	100.0%
5	10	100.0%	0	0.0%	10	100.0%
6	10	100.0%	0	0.0%	10	100.0%
7	10	100.0%	0	0.0%	10	100.0%
8	10	100.0%	0	0.0%	10	100.0%
9	10	100.0%	0	0.0%	10	100.0%
10	10	100.0%	0	0.0%	10	100.0%
11	10	100.0%	0	0.0%	10	100.0%
12	10	100.0%	0	0.0%	10	100.0%
13	10	100.0%	0	0.0%	10	100.0%
14	10	100.0%	0	0.0%	10	100.0%
15	10	100.0%	0	0.0%	10	100.0%
16	10	100.0%	0	0.0%	10	100.0%
17	10	100.0%	0	0.0%	10	100.0%
18	10	100.0%	0	0.0%	10	100.0%
19	10	100.0%	0	0.0%	10	100.0%
20	10	100.0%	0	0.0%	10	100.0%
21	10	100.0%	0	0.0%	10	100.0%
22	10	100.0%	0	0.0%	10	100.0%

Descriptives

			Statistic	Std. Error
1	Mean		1.6000	.22111
	95% Confidence Interval for Mean	Lower Bound	1.0998	
		Upper Bound	2.1002	
	5% Trimmed Mean		1.5556	
	Median		1.5000	
	Variance		.489	
	Std. Deviation		.69921	
	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	
	Interquartile Range		1.00	
	Skewness		.780	.687
	Kurtosis		-.146	1.334
2	Mean		1.8000	.24944
	95% Confidence Interval for Mean	Lower Bound	1.2357	
		Upper Bound	2.3643	
	5% Trimmed Mean		1.7778	
	Median		2.0000	
	Variance		.622	
	Std. Deviation		.78881	
	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	
	Interquartile Range		1.25	
	Skewness		.407	.687
	Kurtosis		-1.074	1.334
3	Mean		2.0000	.33333
	95% Confidence Interval for Mean	Lower Bound	1.2459	
		Upper Bound	2.7541	
	5% Trimmed Mean		1.9444	
	Median		2.0000	
	Variance		1.111	
	Std. Deviation		1.05409	
	Minimum		1.00	
	Maximum		4.00	
	Range		3.00	

Descriptives

			Statistic	Std. Error
3	Interquartile Range		2.00	

	Skewness		.712	.687
	Kurtosis		-.450	1.334
	Mean		1.6000	.22111
	95% Confidence Interval for	Lower Bound	1.0998	
	Mean	Upper Bound	2.1002	
	5% Trimmed Mean		1.5556	
	Median		1.5000	
	Variance		.489	
4	Std. Deviation		.69921	
	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	
	Interquartile Range		1.00	
	Skewness		.780	.687
	Kurtosis		-.146	1.334
	Mean		3.2000	.44222
	95% Confidence Interval for	Lower Bound	2.1996	
	Mean	Upper Bound	4.2004	
	5% Trimmed Mean		3.1667	
	Median		3.0000	
	Variance		1.956	
5	Std. Deviation		1.39841	
	Minimum		1.00	
	Maximum		6.00	
	Range		5.00	
	Interquartile Range		2.00	
	Skewness		.475	.687
	Kurtosis		.813	1.334
	Mean		1.8000	.24944
	95% Confidence Interval for	Lower Bound	1.2357	
	Mean	Upper Bound	2.3643	
6	5% Trimmed Mean		1.7778	
	Median		2.0000	
	Variance		.622	
	Std. Deviation		.78881	

Descriptives

			Statistic	Std. Error
6	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	
	Interquartile Range		1.25	
	Skewness		.407	.687
	Kurtosis		-1.074	1.334
	Mean		2.4000	.33993
	95% Confidence Interval for	Lower Bound	1.6310	
	Mean	Upper Bound	3.1690	
	5% Trimmed Mean		2.3889	
	Median		2.0000	
	Variance		1.156	
7	Std. Deviation		1.07497	
	Minimum		1.00	
	Maximum		4.00	
	Range		3.00	
	Interquartile Range		1.50	
	Skewness		.322	.687
	Kurtosis		-.882	1.334
	Mean		3.0000	.49441
	95% Confidence Interval for	Lower Bound	1.8816	
8	Mean	Upper Bound	4.1184	
	5% Trimmed Mean		2.9444	
	Median		3.0000	

	Variance		2.444	
	Std. Deviation		1.56347	
	Minimum		1.00	
	Maximum		6.00	
	Range		5.00	
	Interquartile Range		2.25	
	Skewness		.436	.687
	Kurtosis		-.029	1.334
	Mean		2.0000	.29814
9	95% Confidence Interval for Mean	Lower Bound	1.3256	
		Upper Bound	2.6744	
	5% Trimmed Mean		1.9444	

Descriptives

			Statistic	Std. Error
9	Median		2.0000	
	Variance		.889	
	Std. Deviation		.94281	
	Minimum		1.00	
	Maximum		4.00	
	Range		3.00	
	Interquartile Range		1.25	
	Skewness		.994	.687
	Kurtosis		1.185	1.334
	Mean		3.6000	.47610
	95% Confidence Interval for Mean	Lower Bound	2.5230	
		Upper Bound	4.6770	
	5% Trimmed Mean		3.6111	
	Median		3.5000	
	Variance		2.267	
10	Std. Deviation		1.50555	
	Minimum		1.00	
	Maximum		6.00	
	Range		5.00	
	Interquartile Range		2.25	
	Skewness		-.117	.687
	Kurtosis		-.365	1.334
	Mean		2.6000	.30551
	95% Confidence Interval for Mean	Lower Bound	1.9089	
		Upper Bound	3.2911	
	5% Trimmed Mean		2.6111	
	Median		2.5000	
	Variance		.933	
11	Std. Deviation		.96609	
	Minimum		1.00	
	Maximum		4.00	
	Range		3.00	
	Interquartile Range		1.25	
	Skewness		.111	.687
	Kurtosis		-.623	1.334
12	Mean		2.20000	.200000

Descriptives

			Statistic	Std. Error
12	95% Confidence Interval for Mean	Lower Bound	1.74757	
		Upper Bound	2.65243	
	5% Trimmed Mean		2.22222	
	Median		2.00000	
	Variance		.400	
	Std. Deviation		.632456	
	Minimum		1.000	

	Maximum		3.000	
	Range		2.000	
	Interquartile Range		1.000	
	Skewness		-.132	.687
	Kurtosis		.179	1.334
	Mean		1.6000	.22111
	95% Confidence Interval for	Lower Bound	1.0998	
	Mean	Upper Bound	2.1002	
	5% Trimmed Mean		1.5556	
	Median		1.5000	
	Variance		.489	
13	Std. Deviation		.69921	
	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	
	Interquartile Range		1.00	
	Skewness		.780	.687
	Kurtosis		-.146	1.334
	Mean		1.6000	.22111
	95% Confidence Interval for	Lower Bound	1.0998	
	Mean	Upper Bound	2.1002	
	5% Trimmed Mean		1.5556	
	Median		1.5000	
14	Variance		.489	
	Std. Deviation		.69921	
	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	
	Interquartile Range		1.00	

Descriptives

			Statistic	Std. Error
14	Skewness		.780	.687
	Kurtosis		-.146	1.334
	Mean		2.5000	.34157
	95% Confidence Interval for	Lower Bound	1.7273	
	Mean	Upper Bound	3.2727	
	5% Trimmed Mean		2.4444	
	Median		2.0000	
	Variance		1.167	
15	Std. Deviation		1.08012	
	Minimum		1.00	
	Maximum		5.00	
	Range		4.00	
	Interquartile Range		1.00	
	Skewness		1.323	.687
	Kurtosis		2.816	1.334
	Mean		2.5000	.34157
	95% Confidence Interval for	Lower Bound	1.7273	
	Mean	Upper Bound	3.2727	
	5% Trimmed Mean		2.5000	
	Median		2.5000	
	Variance		1.167	
16	Std. Deviation		1.08012	
	Minimum		1.00	
	Maximum		4.00	
	Range		3.00	
	Interquartile Range		1.50	
	Skewness		.000	.687
	Kurtosis		-1.032	1.334
	Mean		1.6000	.22111
17	95% Confidence Interval for	Lower Bound	1.0998	

	Mean	Upper Bound	2.1002	
	5% Trimmed Mean		1.5556	
	Median		1.5000	
	Variance		.489	
	Std. Deviation		.69921	
	Minimum		1.00	

Descriptives

			Statistic	Std. Error
17	Maximum		3.00	
	Range		2.00	
	Interquartile Range		1.00	
	Skewness		.780	.687
	Kurtosis		-.146	1.334
	Mean		1.5000	.16667
	95% Confidence Interval for	Lower Bound	1.1230	
	Mean	Upper Bound	1.8770	
	5% Trimmed Mean		1.5000	
	Median		1.5000	
	Variance		.278	
18	Std. Deviation		.52705	
	Minimum		1.00	
	Maximum		2.00	
	Range		1.00	
	Interquartile Range		1.00	
	Skewness		.000	.687
	Kurtosis		-2.571	1.334
	Mean		2.1000	.17951
	95% Confidence Interval for	Lower Bound	1.6939	
	Mean	Upper Bound	2.5061	
	5% Trimmed Mean		2.1111	
	Median		2.0000	
	Variance		.322	
19	Std. Deviation		.56765	
	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	
	Interquartile Range		.25	
	Skewness		.091	.687
	Kurtosis		1.498	1.334
	Mean		1.9000	.23333
	95% Confidence Interval for	Lower Bound	1.3722	
20	Mean	Upper Bound	2.4278	
	5% Trimmed Mean		1.8889	
	Median		2.0000	

Descriptives

			Statistic	Std. Error
20	Variance		.544	
	Std. Deviation		.73786	
	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	
	Interquartile Range		1.25	
	Skewness		.166	.687
	Kurtosis		-.734	1.334
	Mean		2.6000	.22111
	95% Confidence Interval for	Lower Bound	2.0998	
21	Mean	Upper Bound	3.1002	
	5% Trimmed Mean		2.5556	
	Median		2.5000	
	Variance		.489	

	Std. Deviation		.69921	
	Minimum		2.00	
	Maximum		4.00	
	Range		2.00	
	Interquartile Range		1.00	
	Skewness		.780	.687
	Kurtosis		-.146	1.334
	Mean		1.9000	.31447
	95% Confidence Interval for Mean	Lower Bound	1.1886	
		Upper Bound	2.6114	
	5% Trimmed Mean		1.8333	
	Median		2.0000	
	Variance		.989	
22	Std. Deviation		.99443	
	Minimum		1.00	
	Maximum		4.00	
	Range		3.00	
	Interquartile Range		1.25	
	Skewness		1.085	.687
	Kurtosis		.914	1.334

VII- DELPHI II OUTPUT

Explore

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
3	10	100.0%	0	0.0%	10	100.0%
5	10	100.0%	0	0.0%	10	100.0%
8	10	100.0%	0	0.0%	10	100.0%
10	10	100.0%	0	0.0%	10	100.0%
11	10	100.0%	0	0.0%	10	100.0%
16	10	100.0%	0	0.0%	10	100.0%
21	10	100.0%	0	0.0%	10	100.0%

Descriptives

			Statistic	Std. Error
3	Mean		1.7000	.26034
	95% Confidence Interval for Mean	Lower Bound	1.1111	
		Upper Bound	2.2889	
	5% Trimmed Mean		1.6667	
	Median		1.5000	
	Variance		.678	
	Std. Deviation		.82327	
	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	
	Interquartile Range		1.25	
	Skewness		.687	.687
	Kurtosis		-1.043	1.334
5	Mean		2.9000	.40689
	95% Confidence Interval for Mean	Lower Bound	1.9796	
		Upper Bound	3.8204	
	5% Trimmed Mean		2.8889	
	Median		3.0000	
	Variance		1.656	
	Std. Deviation		1.28668	
	Minimum		1.00	
	Maximum		5.00	
	Range		4.00	
	Interquartile Range		2.25	
	Skewness		-.164	.687
	Kurtosis		-.430	1.334
8	Mean		3.3000	.42295
	95% Confidence Interval for Mean	Lower Bound	2.3432	
		Upper Bound	4.2568	
	5% Trimmed Mean		3.2222	
	Median		3.5000	
	Variance		1.789	
	Std. Deviation		1.33749	
	Minimum		2.00	
	Maximum		6.00	
	Range		4.00	

Descriptives

			Statistic	Std. Error
8	Interquartile Range		2.00	
	Skewness		.711	.687
	Kurtosis		.130	1.334
10	Mean		2.4000	.30551

	95% Confidence Interval for Mean	Lower Bound	1.7089	
		Upper Bound	3.0911	
	5% Trimmed Mean		2.3889	
	Median		2.5000	
	Variance		.933	
	Std. Deviation		.96609	
	Minimum		1.00	
	Maximum		4.00	
	Range		3.00	
	Interquartile Range		1.25	
	Skewness		-.111	.687
	Kurtosis		-.623	1.334
11	Mean		2.1000	.23333
	95% Confidence Interval for Mean	Lower Bound	1.5722	
		Upper Bound	2.6278	
	5% Trimmed Mean		2.1111	
	Median		2.0000	
	Variance		.544	
	Std. Deviation		.73786	
	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	
	Interquartile Range		1.25	
	Skewness		-.166	.687
	Kurtosis		-.734	1.334
16	Mean		2.0000	.29814
	95% Confidence Interval for Mean	Lower Bound	1.3256	
		Upper Bound	2.6744	
	5% Trimmed Mean		1.9444	
	Median		2.0000	
	Variance		.889	
	Std. Deviation		.94281	

Descriptives

			Statistic	Std. Error
16	Minimum		1.00	
	Maximum		4.00	
	Range		3.00	
	Interquartile Range		1.25	
	Skewness		.994	.687
	Kurtosis		1.185	1.334
	Mean		2.0000	.21082
	95% Confidence Interval for Mean	Lower Bound	1.5231	
		Upper Bound	2.4769	
	5% Trimmed Mean		2.0000	
	Median		2.0000	
	Variance		.444	
	Std. Deviation		.66667	
	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	
	Interquartile Range		.50	
	Skewness		.000	.687
	Kurtosis		.080	1.334

VIII- DELPHI III OUTPUT

Explore

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
5	10	100.0%	0	0.0%	10	100.0%
8	10	100.0%	0	0.0%	10	100.0%
10	10	100.0%	0	0.0%	10	100.0%

Descriptives

			Statistic	Std. Error
5	Mean		2.8000	.38873
	95% Confidence Interval for Mean	Lower Bound	1.9206	
		Upper Bound	3.6794	
	5% Trimmed Mean		2.7778	
	Median		3.0000	
	Variance		1.511	
	Std. Deviation		1.22927	
	Minimum		1.00	
	Maximum		5.00	
	Range		4.00	
	Interquartile Range		1.50	
	Skewness		.018	.687
	Kurtosis		.145	1.334
8	Mean		3.2000	.41633
	95% Confidence Interval for Mean	Lower Bound	2.2582	
		Upper Bound	4.1418	
	5% Trimmed Mean		3.1111	
	Median		3.0000	
	Variance		1.733	
	Std. Deviation		1.31656	
	Minimum		2.00	
	Maximum		6.00	
	Range		4.00	
	Interquartile Range		2.00	
	Skewness		1.008	.687
	Kurtosis		.818	1.334
10	Mean		2.2000	.24944
	95% Confidence Interval for Mean	Lower Bound	1.6357	
		Upper Bound	2.7643	
	5% Trimmed Mean		2.2222	
	Median		2.0000	
	Variance		.622	
	Std. Deviation		.78881	
	Minimum		1.00	
	Maximum		3.00	
	Range		2.00	

Descriptives

		Statistic	Std. Error
10	Interquartile Range	1.25	
	Skewness	-.407	.687
	Kurtosis	-1.074	1.334